Concurrent Validity of the "Working with Others Scale" of the ICIS Employment Interview System

By

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ABSTRACT

The purpose of this study was to determine if the Working with Others Scale from the American Association of School Personnel Administrators (AASPA) Interactive Computer Interview System (ICIS) was a valid predictor of practicing teachers' interpersonal skills and abilities to work well with colleagues. Participants in the study were all employed by the same Midwestern school district. Two elementary school principals and sixty teachers from two elementary schools took part in the study. Teacher and principal survey responses regarding staff members' positive, as well as negative interpersonal skills, and interview scores from the Working with Others scale and the Total scale of the ICIS interview instrument composed the data for this study.

Strong inter-item correlations amongst the teacher and principal survey items were observed. The teacher survey items demonstrated a greater level of correlation to the Working with Others mean and the Total mean of the Interactive Computer Interview System than did the principal survey.

The ICIS instrument, when compared to the teacher surveys, demonstrated that it is a moderately valid and reliable instrument that has the capacity to predict the interpersonal skills of teachers.

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Chapter One: Introduction

Problem Statement

Teachers must possess a certain level of intellectual competence to perform the duties of an educator; however one's interpersonal skills also play a critical role in the classroom and one's professional success. A teacher's interpersonal skills are essential for success in the classroom as well as being a collegial member on a staff (Blackman and Funder 2002). Bonding and relating well with one's students and colleagues is a necessity in creating a learning environment that is healthy and productive.

Teachers must demonstrate a competent knowledge base, but competency is simply not enough to be successful in the classroom. According to the National Board for Professional Teaching Standards, "Professionals deal with urgent human problems: matters of life and death, justice, hope and opportunity" (1997: 6). In order to cope with the human elements of the teaching profession, individuals hired for the classroom must possess proficient interpersonal skills and demonstrate an ethical demeanor in order to earn the trust of the community in which they serve. "Students learn early to read and draw lessons from their teachers' character; teachers, consequently, must conduct themselves in a manner students might emulate" (National Board for Professional Teaching Standards 1997: 6). Teachers are role models for the clients they serve and play a critical role in the development of future citizens.

Although the states sanction educational programs for schools, the teachers must work collaboratively with the local school authorities and colleagues to develop curricular programs

around these broad state goals and objectives. “Proficient teachers collaborate in planning the instructional program of the school to assure continuity of learning experiences for students. They possess the interpersonal skills needed to work on teams and a willingness to work together in the interest of the school community” (National Board for Professional Teaching Standards 1997: 18). It is, therefore, vital to identify teachers with adept interpersonal skills in order to assure that classrooms are staffed with individuals with the right balance of intellectual as well as interpersonal competencies thus increasing the district’s potential to perform academically at a governmentally sanctioned level.

Teachers graduating from accredited universities, who are seeking employment in our nation’s school systems, have demonstrated competence at the university level in the academic subjects required to become a teacher. However, very little, if any, time is spent developing one’s personality or human relations skills. One’s interpersonal skills are equally if not more important than one’s intellectual skills in predicting success in the work place, and little information is usually available to educators when hiring new teachers in this key area (Goleman 1995, 2000; Curtis and Nestor 1990; Blackman and Funder 2002). Traditionally, school administrators have access to applicants’ grade point averages, resumes, ACT or SAT scores and their PRAXIS scores. Although all of this information provides a detailed analysis of one’s intellectual competency, there is little systematic analysis or breakdown of an applicant’s interpersonal skills other than through informal means. Thus, school administrators must rely on the hiring process to ascertain if an individual will be a good fit interpersonally with existing staff. The interview process is often times the only opportunity administrators have to assess

these skills prior to employment. Consequently, there is an urgency to employ an interview protocol that effectively measures a teaching candidate's interpersonal skills in order to assure that teachers best equipped to serve children in classrooms are employed. A structured interview protocol could provide administrators with such information if it is valid and reliable and includes scales specifically intended to assess these needed skills. Unfortunately, the interview protocol most often utilized in school districts does not put much of an emphasis on interpersonal skills and often falls short in identifying individuals with superior skills in this area.

Research Question

This study examined the concurrent validity of the "Working with Others" scale from the ICIS Employment Interview System by comparing the perceptions teachers have of one another and principals have of the same teachers to interview scores on the Working with Others scale of the ICIS interview instrument.

The "Working with Others" scale was examined to assess its validity of predicting the interpersonal skills of teachers as independently measured through three assessments. In the first two assessments, teachers evaluated the positive and negative interpersonal skills of colleagues. The third assessment asked principals to assess each staff member's interpersonal skills. Participating teachers then took part in a live interview utilizing the ICIS interview instrument. Scores from the interview instrument were correlated to teacher colleagues' as well as principals' assessments. The research question therefore was: Does the Interactive Computer Interview System have the capacity to predict competent interpersonal skills of teachers? If a structured interview system proves to successfully identify teachers with strong

interpersonal skills in this study, it would behoove educators to review current interview systems and consider the implementation of a structured interview protocol with questions similar to those found in the "Working with Others Scale" from the ICIS interview instrument.

Significance of Research

Very few school districts utilize a structured interview protocol, which is an anomaly because the structured interview process is widely recognized as providing a more consistent and reliable method to meet and assess teaching candidates (Wiesner and Cronshaw 1988). Structured interviews call for the candidates to answer the same set of questions in the same sequence and scored using the same rubric. Utilizing the structured interview protocol forces interviewers to adhere to a script of questions and assess teaching candidates in an equitable and unbiased manner thus identifying candidates well suited for the teaching profession through a more reliable and valid method (Mayfield 1964; Ulrich and Trumbo 1965; Wright 1969; Schmitt 1976; Campion M., Campion J. and Palmer 1997). Traditionally, school districts often do not utilize a structured interview protocol for personnel selection (Van der Zee, Bakker A. and Bakker P. 2002). Educators tend to write their own interview questions and score candidates' responses subjectively. Unfortunately, there are many flaws in such a system. Interviewer bias can taint the integrity of the interview process in such a setting thus leading to potential legal entanglement with the Equal Employment Opportunities Commission. Poorly written questions, questions unrelated to the job and veering off topic can also lead to unproductive interviews and the hiring of individuals not fit for the job.

Since the interview instrument utilized by school administrators may be the only gauge available to assess the interpersonal skills of teaching candidates, the selection of this instrument must be carried out scientifically and with solid research to support its effectiveness. Identifying the effectiveness of the structured interview process in assessing teaching candidates' interpersonal skills has the potential to assist school administrators in selecting teachers who demonstrate the ability to establish and maintain relationships with all patrons of the school community, to work collaboratively with colleagues for the betterment of the school culture and climate as a whole and to hire teachers who demonstrate keen problem solving skills (American Association of School Personnel Administrators 2003). Although there is research to support the overall use of the structured interview process, there is very little research that focuses on the predictability of interpersonal skills through the structured interview process. Information garnered from this study could prove to be critical to school officials as they seek to fill job vacancies with individuals possessing the interpersonal skills necessary to be successful in the teaching profession.

Chapter Two: Review of the Literature

The Role of Educators

The role of schools and educators as it relates to determining what curriculum is worthwhile and should be taught has been debated for centuries. Philosophers, educators, school administrators, political leaders, and parents have traditionally questioned curricular priorities (Schubert 1997). Historically, the significance of interpersonal skills and their function in the education arena has also been argued. How do schools best prepare students to

become healthy, contributing members of society while at the same time instilling the skills needed for a technical profession? Social or interpersonal skills weave their way into every aspect of learning and their importance has ebbed and flowed throughout the centuries in a robust debate. Dating back to the twentieth century, social scientists of education, such as John Dewey, have contended that the most critical objective of schools is to promote both social and institutional functions (Ingersoll 1996). Teaching children social skills and competencies is critical to their success in life. In order to teach these skills, educators must be competent themselves and possess sound interpersonal skills.

The current state of society forces schools to take on roles traditionally thought to belong to parents (Coleman and Hoffer 1987). Teachers are asked to impart information regarding the ethical upbringing of children in our society. Hence, the role of schools is becoming increasingly more social in nature. In fact, some may argue that the most important facet of schools is to prepare students to be productive citizens (Ingersoll 1996). Thus, it is critical that today's educators possess the interpersonal skills necessary to successfully meet such demands of the classroom; however, due to the No Child Left behind Act, school districts tend to hire teachers based significantly on their intellectual and teaching skill competencies thus giving little attention to the social skills needed to be successful modern educators.

School districts are a business and must compete in a market with great demands. Like any other business, school districts provide a service to their clients, the parents and children they serve. A successful business strives to enhance the value of the organization for the employees as well as the community as a whole (Ouchi 1980). Employees of a school district

similarly must possess the intellectual qualities needed to be successful in the classroom, as well as the interpersonal skills necessary to please all of the patrons of the school and business community.

The debate about the importance of interpersonal skills and how they relate to education remains of interest. Not only should educators be concerned with the level of importance granted to interpersonal skills in the curriculum, but attention should also be directed to the importance placed on hiring individuals with well-developed interpersonal skills for the success of their clientele as well as their organization as a whole.

Effective Employee Traits

Daniel Goleman (1995), in his text, Emotional Intelligence, purports that the traditional paradigm of assessing individuals' ability by their intellectual skills should take a backseat to assessing individuals' abilities in the area of emotional intelligence. "Emotional intelligence is observed when a person demonstrates the competencies that constitute self-awareness, self-management, social awareness and social skills at appropriate times and ways in sufficient frequency to be effective in the situation" (Boyatzis, Goleman and Rhee 1999: 3). John Mayer and Peter Salovey offer another definition of emotional intelligence that states, "Different types of people will be more or less emotionally intelligent. Emotionally intelligent individuals may be more aware of their own feelings than others. They may be more open to positive and negative aspects of internal experience, better able to label them, and when appropriate, communicate them" (Mayer and Salovey 1993: 440).

Howard Gardner (1983), through his work with *Multiple Intelligences,* contends that there are seven types of intelligences that should be measured when assessing one's professional potential. Isolating one type of intelligence, such as academic IQ, is a disservice to those who excel in one or more of the other areas of intelligences such as: verbal-linguistic, logical-mathematic, visual-spatial, musical-rhythmic, kinesthetic, naturalist, existential, intrapersonal and interpersonal. "Interpersonal intelligence is the ability to understand other people: what motivates them, how they work, how to work cooperatively with them" (Gardner 1993: 9). Another definition offered by Gardner concerning interpersonal intelligence states that keen interpersonal skills are present when individuals display, "Capacities to discern and respond appropriately to the moods, temperaments, motivations and desires of other people" (1989: 8). Gardner contends that intelligence contributes to approximately twenty percent of all of the factors that make an individual successful in life leaving eighty percent to other factors (Gardner 1995). Interestingly, those individuals successful in service professions such as teachers, politicians and religious leaders most likely demonstrate strength in their interpersonal intelligence (Gardner 1983).

One's emotional skills may actually be a better determinant of their future success than their IQ (Goleman 1995). A study conducted at Boston University in the early 1980's followed eighty-one valedictorians from high schools across the state of Illinois. Each of these graduates finished high school with the highest grade point average in their respective classes. However, ten years after graduation, only one in four of them were performing well professionally

compared to their age level peers and some of them were performing far worse than their colleagues (Arnold 1992).

Lewis Terman, best known for coining the well-known acronym IQ or Intelligence Quotient, spent the bulk of his professional career studying and following individuals identified by IQ as being gifted or even genius. His research assumption was that intelligence testing had the propensity to identify gifted students. He argued that identifying gifted students through testing would force schools to create an academic regimen intellectually appropriate that would in turn, better assure professional opportunities for these students in the future. In 1921, Terman tested and identified close to one thousand students in the state of California who scored at or above 140 on the Stanford-Binet Intelligence Test. His longitudinal study followed these students for fifty years throughout their schooling and well into their professional careers to assess their job success. Terman did find that there is a correlation between academic ability and predicting one's professional successes; however, after seventeen years of following the cohort, he found that sixty-three members of the cohort had dropped out of college and many others held jobs far beneath their intellectual capacity. He had to concede that there were other factors affecting one's ability to thrive in the working world other than intelligence. "In the total picture, the variables most closely related with vocational success are a home background in which the parents place a high value on education, encourage independence and initiative, and expect a high level of accomplishment; good mental health and all-round social and emotional adjustment; and the possession of certain traits and characteristics of personality" (Oden 1968: 92) In Terman's own words, "High

intelligence is useless unless coupled with social adaptability and moral stamina"(1930: 148). Studies highlighting valedictorians and individuals with exceptionally high IQ's demonstrate that these individuals have the capacity to master the curriculum and demonstrate intellectual aptitude; however, other factors including emotional or interpersonal intelligence may also play a role in professional success and should be an integral aspect of the interview process.

One's interpersonal skills should be considered along with intellectual capacity as predictors of how well one will function in a professional work setting and contribute to the health of the organization. Ruth Curtis and Darlene Nestor in their article, *Interpersonal Skill-Building for Instructional Developers* contend that employees' interactions with clientele are equally important as intellectual skills to successfully complete work related tasks (1990). The climate of a workplace is critical to its production or outcomes. A positive work climate enhances the productivity of the workplace by at least one third highlighting the significance of assessing applicants' emotional as well as intellectual capacities (Goleman 2000).

"The cost-effectiveness of emotional intelligence is a relatively new idea for businesses, one some managers may find hard to accept" (Goleman 1995: 149). Employees of companies find it difficult to utilize their emotional intelligence for fear that they will make decisions based on their hearts rather than their heads. However, businesses would be better suited to utilize training in the area of emotional intelligence due to the fact that their decisions would be made in a more humane and effective manner (Goleman 1995). The cost of hiring individuals who lack in the area of emotional intelligence can be, "decreased productivity, an increase in missed deadlines, mistakes and mishaps, and an exodus of employees to more congenial settings"

(Goleman 1995: 148). Hiring individuals who demonstrate competent interpersonal skills also increases the likelihood that employees will be in tune with the feelings and needs of their colleagues. Employees will have the skills to handle confrontations and disagreements with poise. They will have the ability to problem solve and accept criticism and finally, they will have the capacity to appreciate differences in others and foster a positive and healthy work environment (Goleman 1995).

Blackman and Funder (2002) take an interesting stance concerning the interviewing and hiring of individuals with desirable personalities or interpersonal skills. These authors highlight the importance of the interview process in identifying counterproductive traits, the opposing traits employers want or look for in applicants such as absenteeism, employee theft, volatile behavior, and workplace violence. When defining counterproductive traits; however, they identified productive traits as well. The three most desirable traits employers should look for in future employees are conscientiousness, agreeableness and emotional stability (Blackman and Funder 2002).These traits, when not present in candidates, can become counterproductive in future employees.

Interpersonal Skills and Hiring in Education

Because of the No Child Left Behind Act, school districts are currently held accountable to attain academic benchmarks annually or face the penalties associated with not making adequate yearly progress, such as being placed on improvement, or even losing potential federal funding. This pressure may force school districts to focus less on the interpersonal skills of applicants in order to assure that chosen candidates have the intellectual capacity necessary

to teach assigned subject matter. However, cognitive ability does not always equate with quality of instruction. Interpersonal skills of employees interact with the cognitive skills in order to create a well-balanced, capable and successful employee.

Cognitive as well as non-cognitive skills are needed to perform a job successfully according to Michelle Jackson (2006). Jackson alludes to the fact the individuals must display ambition, good attitudes, sound judgment and have an ambitious demeanor to be considered an effective employee. Employers are looking to confirm these traits in candidates through personal interviews, letters of reference and resumes. Although it may seem obvious that employers should assess the social skills of applicants, Jackson suggests that little attention has been spent concerning how to best identify these traits in applicants through the interview process. Most research that assesses how individuals attain employment as well as status in the workforce focuses on intelligence, social class origin, gender or ethnicity rather than personality traits (Jackson 2006). In fact, Jackson sites research that indicates that social competence not only affects occupational status, but that it also has the propensity to impact earnings as well (Jackson 2006; Jencks 1979).

Robert E. Fisher (1991) suggests that teachers may demonstrate a level of academic professional competence but it is their personalities in the classroom that lead to successful or unsuccessful teachers. “The ability to communicate effectively, and get along with students, parents, colleagues and administrators together with on-going awareness and clarification of one’s attitudes, feelings, and values are significant components of what we call the personal skills”(Fisher 1991: 21). Malcolm Bessom (1980: 5) indicates that, “The teacher’s personality is

probably the most important quality contributing to his success or failure." If personal skills are so important, then why is so little time spent in developing these skills at the university level? Fisher contends that there are two reasons for this oversight: Interpersonal skills are individualized and private in nature, and university personnel make the assumption that if they teach the core curriculum in methods and foundations in education that the necessary interpersonal skills will develop naturally (Fisher 1991). Fisher describes the phenomenon of how the human species develops a personality from the time socialization begins. All social interactions mold individuals and shape their personality. Individuals may be introverted or extroverted, aggressive or submissive, structured or flexible as examples of basic behavioral traits. Individuals learn how to manage in social interactions given his or her personality style. Teachers with well-rounded personality traits have greater potential to be successful in the classroom. It is through the personality that personal skills are refined and developed. As teachers interact in professional settings, they do have the capability to improve personal skills through practice and repeated experiences that test these skills.

"Some scholars suggest that teachers and administrators are relatively autonomous and communicate infrequently with each other" (Reyes and Hoyle 1992: 163). Due to this phenomenon, it is essential to hire teachers who display competence in their personal skills. The organization of schools is loosely coupled, and supervision of teachers is challenging in that teachers retreat to their classrooms and enjoy freedom in the manner in which they deliver instruction to the students (Reyes and Hoyle, 1992). When hiring teachers, principals must seek

individuals with the ability to interact autonomously with all patrons of the school community with competence and skill as well as with little direct supervision.

Student achievement can also be attributed to the interpersonal skills of teachers. Students who enjoy being at school typically perform at a higher achievement level than students who are unhappy in school (Hallinan 2008). Teachers who develop authentic relationships with their students are creating a school atmosphere where students feel cared for as well as respected. Students feel more connected to school due to the ties established by their teachers. They are less likely to drop out or have behavioral problems if they have a connection or a healthy relationship with their teacher. "The unique role that teachers play relative to students and the kinds of experiences teachers create for students suggest that teachers may exert a powerful influence on whether students like school" (Hallinan 2008: 271). Students who have developed a positive rapport with their teacher or teachers and feel respected by their teachers are more likely to outperform students who receive little personal connection from their teachers (Hallinan 2008). Hence, student achievement can also be attributed to the interpersonal skills of teachers. Hallinan suggests that the recent legislative focus on student achievement has made educators too narrow focused and remiss in analyzing the emotional connectivity students have to their schools. "Learning is a social psychological as well as cognitive process" (Hallinan 2008: 281). In essence, teachers wield a tremendous amount of power and must connect interpersonally with their students in order for them to succeed academically.

Another facet concerning interpersonal skills as they relate to the teaching profession has to do with teacher attrition. A growing concern in the field of education is that an increasing number of teachers are leaving the profession within their first five years of service. In fact, thirty percent of all teachers who enter the profession will leave the classroom within five years (Darling-Hammond 1999). Interestingly, when teachers are asked what makes them stay in the profession, one of the factors they indicate is establishing healthy relationships with parents, families and students (Billingsley 1993). Perhaps the interview process could successfully identify individuals with strong interpersonal skills so that new teachers in the field would start their careers better equipped to establish relationships and remain in the profession thus decreasing the attrition rate.

History of the Interview Process

By definition, "The employment interview is an interpersonal interaction of limited duration between one or more interviewers and a job-seeker for the purpose of identifying interviewee knowledge, skills, abilities and behaviors that may be predictive of success in subsequent employment" (Wiesner and Cronshaw 1988: 276). In a study conducted in 1965 by Ulrich and Trumbo, eight hundred and fifty-two organizations were surveyed about how they hire new employees. They found that ninety-nine percent of business organizations rely on the interview process for all hiring responsibilities (McDaniel, Whetzel, Schmidt and Mauer 1994). The interview is the most prominent method utilized in hiring, and the selection of competent employees relates directly to the competitive success or even survival of organizations (Simola, Taggar and Smith 2007).

In the educational arena, the interview process is relied on heavily as well and is the most common method used to collect information about prospective teacher candidates (Delli and Vera 2003). For teachers, the interview process is one of the first opportunities to be evaluated by district personnel, and at times, the only pre-employment opportunity they have to make a professional impression. Therefore, it is critical that the interview instrument utilized by school officials has the validity and reliability to assess the quality of teaching candidates due to its level of importance and impact on the hiring process.

Historically, the interview process has been controversial when measuring the predictability of job performance of applicants on a number of pre-specified performance correlates. "The employment interview was viewed as lacking reliability and validity due partly to its lack of standardization." (Campion, Campion and Hudson 1994: 998) One of the first comprehensive analyses of the interview process (Wagner 1949) provided insight for employers regarding the effectiveness of the interview process in hiring competent employees. Wagner noted that there were few studies that could quantify the validity and reliability of the interview process. In the few studies that could validate the predictive value of the interview process, there still remained many inconsistencies. He defined validity as, "Correlating interview judgments with some measure of on-the-job performance," and he defined reliability as, "Correlating evaluations of different interviewers who had assessed the same job candidates" (Wagner 1949: 44). Wagner cited the work of McMurray, (1947), and Rundquist, (1947), highlighting inconsistencies in the interview process such as: unrealistic interview expectations where employers were asked to rank too large a number of applicants, lack of

training or even low intellect of the interviewer, interview bias where the interviewer had prior knowledge of candidates or preconceived notions of certain groups of applicants and inconsistency in the organization of the interview process (McMurray 1947; Wagner 1949).

There were several researchers following Wagner that reviewed the interview process in general. Mayfield (1964), Ulrich and Trumbo (1965), Wright, (1969) and Schmitt (1976) all concurred that the interview process can be useful if the tenets of a structured interview protocol were implemented. Interestingly, one trait that was found to be statistically significant regarding structured interview predictability and validity according to Rundquist is one's sociability.

The Structured Interview Process Defined

The structured interview is defined by Emley and Ebmeier as, "a process where all interviewees are asked to respond to the same questions in the same sequence and under the same conditions" (1997: 45). Similarly, Michael Campion, James Campion and David Palmer define structure as, "Any enhancement of the interview that is intended to increase psychometric properties by increasing standardization or otherwise assisting the interviewer in determining what questions to ask or how to evaluate responses" (Campion, M., Campion, J. and Palmer 1997: 656). They also indicated in their definition that there are two aspects to the structured interview process: the actual content of the interview and the evaluation process of the interviewees. Huffcutt and Arthur defined the structured process as, "The reduction in procedural variance across applicants, which can translate into the degree of discretion that an interviewer is allowed in conducting the interview" (Huffcutt and Arthur 1994: 186).

Denis Morin and Denis Pascale (2010) review the book, The Structured Interview: Enhancing Staff Selection by Normand Pettersen and Andre Durivage (2008). Their text outlines four steps in developing or defining a structured interview process. Step one involves conducting a thorough job analysis in order to write interview questions that relate directly to the responsibilities of the job. Questions that are relevant and tied directly to job performance have a much higher validity rate in the structured interview setting. Job analysis is, "The process of gathering, analyzing, and structuring information about a job's components and characteristics, including environmental contexts and job requirements" (Pettersen and Durivage 2008: 253). Focusing the interview questions around the job analysis or description decreases the potential for interviewers to ask questions non-related to job expectations. Step two in developing a structured interview protocol indicates that interview questions should be structured around the KSAO model (Pettersen and Durivage 2008). KSAO stands for: knowledge, skills, aptitudes and other personal qualities. Structuring the questions around these themes provides clarity for the interviewer about what they are looking for in a candidate. Questions in the interview should be tied directly to job related performance expectations in order to clarify what employers are looking for in candidates. Step three in structuring interviews includes the creation of an interview guide and a scoring guide. The interview guide describes the types of questions. According to Morin and Pascale (2010), the questions should cover behavioral as well as situational questions. Behavioral questions are framed to ask applicants how they have responded to certain work related situations in the past. Applicants' past behavior should be indicative of how they will behave in future job related situations. Situational questions are hypothetical in nature and test the interviewee

about how they might respond in the future to situations related to the job description (Simola, Taggar and Smith 2007). Behavioral questions tend to correlate better to the candidates' personality traits and questions that entail choosing from a list of possible responses better assess a candidate's level of knowledge (McDaniel, Hartman, Whetzel and Grubb 2007). A combination of these two modes of questioning is recommended for accuracy as well as validity in the interview process (Morin and Pascale 2010). The use of a scoring guide in correlation to each individual question is recommended. The scoring guide should have explicit rating scales for interviewers to use to assess each candidate. Step four of implementing a structured interview protocol focuses on the design or organization of the interview and the actual interview itself. For example, the length of the interview, the phrasing of the questions, the number of questions, and even how to welcome, introduce and thank the candidates should be pre-determined by the employer. Once the interview is complete, the interviewer must evaluate the candidates and make hiring decisions. How to score the candidates should be clearly outlined for interviewers (Morin and Pascale 2010).

"In the eighty- year history of published research on employment interviewing, few conclusions have been more widely supported than the idea that structuring the interview enhances reliability and validity" (Campion M., Campion J. and Palmer 1997: 655). Structured interviews have also been coined as, "standardized, guided, systematic or patterned interviews" (Campion M., Campion J. and Palmer 1997: 656). Interviews that are structured in nature are, "intended to increase psychometric properties by increasing standardization or otherwise assisting the interviewer in determining what questions to ask and how to evaluate

responses" (Campion M., Campion J. and Palmer 1997: 656). Campion, Campion and Palmer offer further steps to best structure interviews: Ask the same questions of each candidate; Limit the prompting and follow-up discussions to questions; use questions related to job performance; Use longer interviews or larger number of questions; Control ancillary information such as application forms, resumes and previous interview notes; Do not allow questions from candidates until after the interview; Rate each answer or use multiple scales; Take detailed notes; Use multiple interviewers; Use same interviewers for all candidates; Provide extensive interview training; Use statistical rather than interviewer judgment (1997).

According to the United States Office of Personnel Management, the interview process for hiring is more popular than written tests due to the fact that the interviewer can more easily assess the candidate's communication and interpersonal skills (U.S. Office of Personnel Management 2008). The structured interview process is a preferred method of interviewing because all candidates are treated with equity. Research on structured interviews has revealed that this sort of interview structure has proven to have a high degree of reliability, validity and legal defensibility (U.S. Office of Personnel Management 2008). Structured interviews increase the odds that an employer is going to hire a candidate who has the skills to perform the described job as well as assuring that the interview process is legally defensible. "Standardizing interview processes are seen as critical to making hiring decisions more predictable and defendable" (Delli and Vera 2003: 145).

Types of Structured Interview Protocols in Education

There are three prominent structured interview protocols for educators that have become commercialized and worth description: The Haberman Star Teacher Interview, Gallup's Teacher Perceiver Interview or the TPI and the Interactive Computer Interview System (Metzger and Wu 2003; American Association of School Personnel Administrators 2003). The Star Teacher Interview was created by Martin Haberman at the University of Wisconsin-Milwaukee. This particular interview protocol assesses teaching candidates who apply to work in urban or high poverty school districts. Teaching candidates are rated on ten categories: persistence, organization and planning, values student learning, theory to practice, at-risk students, approach to students, survival in a bureaucracy, identifies traits for teacher success, identifies traits for student success and fallibility (Metzger and Wu 2003). Haberman designed this protocol to provide school administrators in impoverished settings a way to identify new teachers who had potential to succeed in the urban environment.

The most popular structured interview protocol to date was designed and published by Clifton and is called the Teacher Perceiver Interview or TPI marketed by Gallup. The TPI involves interviewing face to face, and Gallup boasts thirty years of research on this structured interview model (Metzger and WU 2003). It is composed of sixty-three prompts of which job candidates are to respond. The prompts are written around twelve themes that Gallup claims have proven to be essential skills needed to be a successful teacher. The candidates' scores are compared to a pool of current teachers who Gallup has identified as highly qualified. The pool of highly qualified teachers is comprised of teachers who have been recognized nationally by fellow

teachers, parents and principals. Candidates' responses to the prompts are compared to the responses of the highly qualified teachers. The higher the candidates' scores, the more likely they are to become successful teachers due to the fact that their responses to the prompts mirrored the responses of teachers already coined as highly successful. In other words, their responses were similar in nature indicating a predictive sense that they will succeed in the teaching profession as have those identified as highly qualified teachers. The TPI by Gallup is highly regarded and the most utilized structured interview protocol in schools (Metzger and Wu 2003).

A third instrument, the Interactive Computer Interview System, is a structured interview instrument that was developed at The University of Kansas (American Association of School Personnel Administrators 2003). This interview protocol, referred to as ICIS and described earlier, will be the structured interview instrument utilized for this study. This study will add to the relatively scant amount of research in the area of interviewing effectively as it relates to interpersonal skills as well as to create a more robust review of the literature in this critical area.

The Validity of the Structured Interview Process

When employers fail to utilize a structured interview protocol, their general beliefs or stereo-typed biases about people have the potential to interfere with their objectivity. These biases or stereo-types can lead them to select candidates for positions based on presumptions rather than hard facts. As a result, the interviewer tends to select candidates that they relate well to and who most resemble themselves (Emley and Ebmeier 1997). Administrators may

also select teaching candidates based on a number of other characteristics in this unstructured approach: presentation style, age, physical appearance, similarity to the interviewer and gender (Young and Heneman 1986; Pingitore, Dugoni, Tindale and Sprint 1994; Emley and Ebmeier 1997). Nonverbal cues can also weigh in heavily in the interview setting, especially when the interview is non-structured. Smiling, making eye contact and utilizing gestures can lead the interviewer to believe that candidates are harder working and potentially more motivated than those who lack in the area of non-verbal cues (Gifford 1985).

Researchers recommend that interviews should be conducted in a manner that is legally defensible, and less structured interviews lend themselves to subjectivity or even bias on the part of the interviewer. Inconsistencies that occur in an unstructured interview setting set employment agencies or school districts at risk for legal challenge. In general, the more subjective the interview process the less defensible the process is legally for the employer (Williamson, Campion J., Malos, Roehling and Campion, M. 1997). Utilizing a structured approach to interviewing decreases the possibility of bias in the interview process thus limiting the potential of an employer breaking the law as it relates to employment practices and future legal entanglement with the Equal Employment Opportunities Commission. Structured interviews tend to be more objective, ask questions related directly to the job and are standardized in nature. Due to this fact, they tend to be challenged less often in the judicial system (Williamson, Campion J., Malos, Roehling and Campion, M. 1997).

School officials tend to interview candidates back to back or one after another. In an unstructured interview setting, this system may be faulty in that a number of factors cause

decay in the interview process and inhibit the selection of the best candidate. When interviewing candidates one after another without a rubric or rating system, the interviewer tends to identify the strongest candidate and compare all others to that standard rather than rating each candidate as an individual (Mauer and Lee 2000). The interviewer also has the potential to become fatigued when interviews are successive. Fatigue can cause the interviewer to make random mistakes or short change one candidate over another simply due to boredom or weariness with the process. Unstructured interviews foster subjectivity and bias to enter the interview ring. Without a formal rating system, interviewers are more likely to make mistakes and succumb to errors in judgment. Implementing a more structured interview protocol reduces the propensity for discriminatory decisions being made in the interview process and greatly increases the chances of hiring the right person for the job (Mauer and Lee 2000).

Mark Van Clieaf conducted an analysis of multiple interview formats: one on one interviews, reference checks, assessment centers, traditional board reviews, cognitive ability testing and structured behavior interviews. His study found that the structured interview protocol was the most valid statistically in successfully predicting the future job success of potential employees (Van Clieaf 1991). The structured interview process is a valid tool in predicting traits in individuals that will make them successful in the work place. It has been demonstrated in research, including meta-analytic reviews, that structured interviews are a more valid predictor of job success; however, “There is a call for further study of the construct validity of the interview: to what extent does it measure motivation, social skills, and communication skills” (McDaniel, Whetzel, Schmidt and Mauer 1994: 610)? In essence, there is

much research available to indicate that the overall configuration of the structured interview is more valid in predicting job related success than unstructured interviews; however, there is little research that pin points validity by individual traits or characteristics and, as it relates to this study, the predictability of interpersonal skills of potential teachers through the structured interview process.

Disadvantages to the Structured Interview Protocol

Of the research that exists concerning structured interviews, there is some controversy as to the overall effectiveness of the interview process having the capacity to identify the strengths and weaknesses of candidates as it relates to their personalities or interpersonal skills. Although there is a plethora of research to support the theory that the structured interview process is more effective than the unstructured interview process in identifying candidates with satisfactory work related skills or abilities, there is research that questions the effectiveness of structured interviews in identifying personality traits or tendencies (Ickes, Snyder and Garcia 1997; Blackman and Funder 2002). A structured interview process may not allow the interviewer or the interviewee to deviate from a scripted set of questions or to elaborate their responses in an open and unrestricted manner. Individuals tend to open up and show more of their personalities when allowed to dialog in an unrestricted and free manner (Ickes, Snyder and Garcia 1997). In an unstructured interview setting, interviewers are free to ask questions at will and guide the interview in any direction necessary to obtain information. The atmosphere in an unstructured interview setting may be more relaxed than in a structured interview setting thus revealing more of a candidate's personality characteristics. In an

unstructured setting, the applicant will feel more at ease and may even abandon the idea that he or she is being assessed or evaluated. This relaxed atmosphere may allow the employer to garner more personal information from the job candidates and thus be a superior interview model when assessing interpersonal skills (Blackman and Funder 2002).

Another controversial feature of the structured interview has to do with the fact that employers may feel as if the structured process is less welcoming to the candidates and that the candidates will fail to accept a job offer if their interview experience was not enjoyable. Other concerns about the structured interview process are that they are time consuming as well as costly in that employers must be adequately trained in order to effectively utilize the instrument. Interviewers may also feel as if the structured interview process robs them of the freedom to ask questions of their pleasing and to have personal control and autonomy over the interview process (Delli and Vera 2003). Although there may be hesitation from school districts to adopt a structured interview protocol due to cost, time as well as interviewer autonomy, there is no question that when interviewers are required to adhere to a specified interview protocol, the validity and reliability of the process is greatly enhanced overall. However, there is conflicting research as to how effective the structured interview protocol is in identifying individuals with competent interpersonal skills.

Structured Interviews and Interpersonal Skills

One of the earliest publications to make a connection between interview structure and interpersonal skills is, *The Selection Interview Since 1949* by Lynn Ulrich and Don Trumbo (1965). The authors built upon a historical review of the literature completed previously by

Wagner, (1949), McMurray, (1947) and Rundquist, (1947). Ulrich and Trumbo analyzed the theories posed by these pioneers studying the interview process and concurred that they were quite accurate in their assessment. Interviews could potentially be more valid if they were structured as well as limited in scope. They also proposed that interviews should focus on two key areas: personal relations and job motivation. These two areas demonstrate greater statistical significance and validity (Ulrich and Trumbo 1965). Intellectual skills or the aptitude of an applicant should be reviewed through more valid resources such as test scores thus leaving more time for employers to question applicants regarding their interpersonal skills. Little research; however, has been conducted concerning how best to assess one's interpersonal skills as they relate to a job interview. It has been suggested that the assessment of job applicants' interpersonal skills might best be accomplished in social observations rather than structured interviews (Bass 1950). Social situations may offer a more authentic setting to observe the interpersonal skills of job applicants than a formal interview protocol.

Situational Interviews, studied by Latham, 1980, offer a close approximation to actual social situations and certainly can be a part of a structured interview protocol. During situational interviews, candidates are presented with hypothetical scenarios and asked to indicate how they would react and respond should they find themselves in the described situation. The premise behind such interviews is that the candidates will answer questions with their intentions and their behavior should match their intentions (Latham and Saari 1984; Latham, Saari, Campion and Pursell 1980) Research conducted by Latham, Saari, Pursell and Campion tested this theory by designing a situational interview protocol that was structured in

nature. They interviewed job candidates and then followed the candidates to assess their actual performance on the job once they were employed. When designing this research study, a structured interview protocol was followed. A thorough job analysis was designed and interview questions were derived from the job analysis. Interviewees were asked the same questions and scored on a rubric thus utilizing all of the tenets of the structured interview process. This study did find a positive correlation between how job candidates responded to interview questions and their actual on the job behavior. Hence, structuring interview questions around situational events has great potential to render a better determination of one's social or interpersonal skills and how they are going to perform once employed.

Tett, Jackson and Rothstein (2005) contend that interview questions utilized to assess personality traits must be directly related to the personality requirements of the described job. The personality requirements of a job must be combined with a traditional job analysis so that intellect as well as interpersonal skills can be assessed thus creating a more comprehensive interview process. Personality inventories are an excellent resource when determining appropriate interview questions as they relate to personality traits and job performance (Cucina, Vasilopoulos and Sehgal 2005).

There is very little research in regards to creating job analyses based on personality. However, in a study in 1988 by Arneson, personality traits considered necessary for successful job performance were identified and put into a formal checklist called, The Workers Characteristics Inventory. This inventory served as a resource for employers as a means to identify the personality traits most reliable in predicting candidates who would succeed in the

work force due to effective interpersonal skills. Another study conducted in 2001 by Sumer, Sumer, Demirutku and Cifci utilized the idea of a personality-based job analysis to devise a list of seventy-nine personality traits they deemed as essential for successful job performance. Structuring a portion of interview questions around these research-based personality instruments could provide tremendous insight as to the predictability of an individual's future job performance and give employers the necessary tools to identify candidates with the interpersonal skills necessary to succeed in the workforce.

Karen Ehrhart (2006) concluded that organizations hoping to attract and retain quality employees must examine the pre-hiring notion of personality through an effective interview process. There is a better chance of retaining quality employees post hire if the candidates perceive themselves as a good fit with the organization for which they are interviewing. Candidates must attain a clear understanding of the expectations of an occupation prior to accepting a job offer in order to assess if he or she would be a good fit for the organization. Structuring the interview around a thorough job analysis provides such information to job applicants and increases the likelihood of hiring and retaining individuals best suited to carry out the prescribed tasks of a job.

Chapter Three: Methods

Research Question

This study tested the concurrent validity of a typical structured interview protocol. In particular, the study addressed the question: Does a structured interview process, notably the

Working with Others subscale of the ICIS interview instrument, have the capacity to predict competent interpersonal skills of teachers?

Description of Sample

Teachers from two elementary schools located in a Midwest school district constituted the sample for this academic study. There are seven elementary schools, one middle school, one high school, an alternative high school and an alternative learning center located in this district. The school district has a current enrollment of five thousand, six hundred and fifty-one students. Approximately twenty-eight percent of the students enrolled in this district are at risk in that they receive free or reduced priced breakfast as well as lunch daily. This study focused on two elementary schools. One of the schools has an enrollment of four hundred and seventy-two students and the other has an enrollment of four hundred and forty-five students. Both of the schools serve students ranging from kindergarten through sixth grades.

Development of the ICIS Instrument

The ICIS interactive interview system was developed in 2002-2003 by Dr. Howard Ebmeier at The University of Kansas when he was commissioned by the American Association of School Personnel Administrators to create an interview protocol for hiring teachers in schools servicing students from kindergarten through grade twelve. The computerized interview system allows the interviewers to concentrate on candidates' responses to questions in the areas of: Knowledge of Content, Knowledge of Teaching, Working with Others and Knowledge of Students. The interviewer scores the candidates on a computerized rubric that then tracks response patterns in order to determine the number of questions in each content

area based on the quality of the candidates' responses. The program then creates detailed, summary reports depicting the strengths and weaknesses in the responses of candidates.

Two documents were utilized to create the ICIS instrument. The first document is titled *Teachers of the Future*. The *Teachers of the Future* publication was created from the work of a national commission of school personnel officers who reviewed pertinent literature as well as sought the advice of school practitioners to identify traits of successful teachers. The commission acknowledged nine areas of knowledge and eleven areas of skill that all teachers must possess in order to thrive in the classroom. These skills are highlighted in Table 1.

Table 1. Knowledge and Skills from the Teachers of the Future Document

Critical Knowledge Needed by Teachers
1. Know the subject(s) they teach and how they are related to other subjects
2. Know how to teach the subject(s) to students
3. Know how to assess student progress on a regular basis
4. Know how to plan lessons in a logical sequence
5. Know how to reflect on their teaching and devise ways of improving it on an on-going basis
6. Know how to collaborate with other educators to create the most complete educational environment possible for students
7. Know how to use technology available to us today, at an intermediate level minimally
8. Know and appreciate various cultures, and the larger global society and how to establish rapport with a diverse population of students and parents
9. Know how and where to get needed information and how to educate students to seek and evaluate information
Critical Skills Needed by Teachers
1. Ability to recognize and respond to individual differences in students
2. Ability to implement a variety of teaching methods that result in high student achievement
3. Ability to work cooperatively with parents, colleagues, support staff and supervisors
4. Ability to display genuine love of teaching students (enthusiasm)
5. Ability to implement full inclusion techniques for special education students
6. Ability to differentiate instruction for a variety of developmental stages and ability levels
7. Ability to write, speak and present well
8. Ability to develop critical thinking skills with students
9. Ability and willingness to relate to parents and other community members, individual and corporate, in a positive and helpful fashion
10. Ability to know and utilize technology in the teaching and learning process
11. Ability to implement conflict-resolution strategies for both adults and students

The Praxis III: Classroom Performance Assessments (1995) serves as the second resource in the formation of the ICIS interview protocol. Educational Testing Service in Princeton, New

Jersey developed a set of teacher skills to assess teachers new to the profession as well as to assist in the licensure of and professional development for teachers. Educational Testing Service worked over a ten year period in collaboration with practicing teachers and under the supervision of a national advisory committee to define nineteen critical areas for effective teaching. Table 2 lists the nineteen traits identified by ETS that were in turn utilized to develop questions for the ICIS interactive interview instrument.

Table 2. Question Alignment to the Praxis III Document

Domain A: Organizing Content Knowledge for Student Learning 1. Becoming familiar with relevant aspects of students' background knowledge and experiences 2. Articulating clear learning goals for the lessons that are appropriate to the students 3. Demonstrating an understanding of the connection between the content that was learned previously, the current content, and the content that remains to be learned in the future 4. Creating or selecting teaching methods, learning activities, and instructional materials or other resources that are appropriate to the students and that are aligned with the goals of the lesson 5. Creating or selecting evaluation strategies that are appropriate with the goals of the lesson
Domain B: Creating an Environment for Student Learning 1. Creating a climate that promotes fairness 2. Establishing and maintaining rapport with students 3. Communicating challenging learning 4. Establishing and maintaining consistent standards of classroom behavior 5. Making the physical environment as safe and conducive to learning as possible
Domain C: Teaching for Student Learning 1. Making learning goals and instructional procedures clear to students 2. Making content comprehensible to students 3. Encouraging students to extend their thinking 4. Monitoring students' understanding of content through a variety of means, providing feedback to students to assist learning, and adjusting learning activities as the situation demands 5. Using instructional time effectively
Domain D: Teacher Professionalism 1. Reflecting on the extent to which the learning goals were met 2. Demonstrating a sense of efficacy 3. Building professional relationships with colleagues to share teaching insights and to coordinate learning activities for students 4. Communicating with parents or guardians about student learning

Teacher Survey: Appendices A and B

All teachers, including classroom, music, physical education, reading, librarians, counselors and art teachers, in both of the elementary schools were asked to complete a handwritten survey that assessed the interpersonal skills of their colleagues. The teachers were

presented with assessments that related to both the positive and negative interpersonal skills of their colleagues such as: “Identify three or fewer individuals on staff who have a pleasant disposition or personality” and “Identify three or fewer individuals on staff who have an unpleasant disposition or personality”. Survey A asked teachers to assess the positive attributes of their colleagues, while Survey B assessed the negative interpersonal traits of their colleagues. The surveys were scored separately with ten items per survey. For each survey item, the respondents were asked to put a tally mark next to the names of three or fewer colleagues fitting the description from the proposed positive or negative assessment. For the descriptive statistics as well as the correlational analysis, and sociograms, the means and standard deviations from the survey questions were compared to the means from the ICIS employment interview scores and analyzed to determine if the ICIS interview instrument is a valid predictor of teachers’ interpersonal skills.

Seventy-seven teachers were given the opportunity to participate in the study and complete the surveys. Three of the teachers were absent due to illness or personal reasons and were unable to participate. Twelve teachers declined the opportunity to participate in the research study. The overriding reason for non-participation was that the teachers did not feel comfortable rating their colleagues’ negative interpersonal traits. Teachers noted that they were fearful that their principals or colleagues would find out how they responded to the survey and their working relationships would be compromised. Also, one teacher from each school was removed from the study due to an inordinate number of responses on Survey A from their colleagues. Their scores created an extreme dispersion in the data and masked the

true findings amongst all other colleagues. Each of these two teachers removed from the study holds a position of leadership in the school and tends to be the individual all teachers turn to for professional guidance and assistance. Their role as a leader in the school and a confidant to all colleagues created scores on the surveys that were skewed or even inaccurate when compared to all others. A total of sixty teachers took part in the research study.

Once the surveys were completed, the data was aggregated to assess colleagues' views on the interpersonal skills of the teachers they work with on a day to day basis. The total number of tallies or nominations received by teachers for each question in both Survey A and Survey B was calculated and then plotted on a sociogram to assess if patterns existed between positive nominations garnered from Survey A and negative nominations from Survey B. Means and standard deviations were calculated for the surveys based on how many total nominations occurred for each survey item thus assessing the reliability and validity of each survey item.

Principal Survey: Appendix C

The principals from the two participating schools were asked to assess the teachers they supervise concerning their interpersonal skills. The principals responded to ten items concerning the teachers on a five-point Likert scale in which the score of a 1 indicated little to no proficiency in the area of interpersonal skills, and a score of 5 indicated a high level of proficiency in the area of interpersonal skills. Information garnered from the principals' data was correlated with the teacher surveys as well as with the final data set from the research project: live interviews utilizing the ICIS interview protocol. Correlational analysis and multiple regression methods were utilized to analyze the concurrent validity between all three data sets

in order to assess if the ICIS interview protocol has the capacity to predict competent interpersonal skills of teachers.

Live Interview Procedures

Once faculty members from both elementary schools had completed the written surveys assessing their colleagues' interpersonal skills, they were interviewed in a live interview setting by a teacher who had recently retired from the profession using the Interactive Computer Interview System (ICIS). The interviewer taught in a public school setting for thirty-two years prior to retirement. Her undergraduate degree was in elementary education with an emphasis in special education. She subsequently earned a dual master's degree in special education in learning disabilities as well as behavior disorders. She has taught multiple grade levels as well as special education. She served as a school representative for the Kansas National Education Association during her tenure thus diversifying her professional experiences and qualifications. She met or exceeded the expected standards on all professional evaluations throughout her career. The interviewer was required to successfully complete a standardized training module for the ICIS instrument prior to conducting the live interviews. She demonstrated a proficiency level of ninety-one percent accuracy, as an average, on the training module. The interviews were scheduled over a two day period in each school thus allowing ample time for the actual interviews as well as adequate breaks between each interview.

The interviews consisted of structured questions from all correlates of the ICIS instrument including the Working with Others strand. The questions were consistent across all interviews and interviewees were scored on the same computerized rubric. Table 3 represents

sample questions taken from the ICIS instrument that were used to assess the interpersonal skills of teachers from the two elementary schools participating in this study. The ICIS Employment Interview System has high known overall reliability and validity estimates (See ICIS Technical Manual, 2010).

Table 3. Sample Questions and Rubric Rating Scales from the ICIS Instrument

Sample Question	Rubric Scoring Method
Sometimes the building principal has teachers engage in collaborative work projects such as curriculum committees. What is your view of these assignments?	Level 3 Response: Views such assignments as an opportunity to learn new things or practices : Accepts the necessity of engaging in such activities as part of normal building functions Level 2 Response: Sees the need for such committee work and is willing to participate: Views participation as necessary but does not want to let it interfere with major classroom responsibilities: Cautionary acceptance Level 1 Response: Views collaboration and group projects as a necessary evil: Avoids entanglement in group projects: Views collaboration and group activities as basically a drain on otherwise productive time
To what extent have you been involved in school improvement activities? Give some examples.	Level 3 Response: Actively involved- often a leader or information provider: Instigates change or improvement activities: One of the first to learn about a new process or teaching method Level 2 Response: Willingly participates as part of professional obligations: Works hard to be a contributing member of the school community Level 1 Response: Participates only when asked: Possesses little commitment to the organization, profession, or school: Focuses mainly on his or her own classroom-especially experienced teachers
Describe your relationship as a teacher with members of the community.	Level 3 Response: Views interaction within the community as a way of understanding students: Highly involved in activities impacting education: Views involvement as a way of bringing the community into the classroom (increased relevance): Possesses advanced knowledge of community resources Level 2 Response: Involved in typical social activities such as church, service clubs, special interest groups:

	Involvement is important but also fills many personal needs Level 1 Response: Generally not involved except required functions: Possesses little knowledge of community resources
How do you resolve student peer conflicts?	Level 3 Response: Suggest specific intervention strategies or models such as peer mediation: Describes the rationale for use of these systems: Describes how these systems work and the best times to employ them: Prevention is consistently mentioned as very important: Respect for students in valued Level 2 Response: Relies on basic principles of educational psychology such as separation, rewards and punishments: Standard classroom practices are employed-some may be very effective Level 1 Response: Inserts him or herself into the conflict or assumes a power position: Makes no attempt to respond to the conflict situation: Few intentional strategies are employed to resolve the issue: Prevention is seldom considered: Little respect for students is shown.

Validity, Reliability and Concurrent and Predictive Validity

The three most common types of validity are: content validity, construct validity and criterion-related validity (Huck 2008). Criterion-related validity assesses whether a new measurement instrument is valid by comparing it to an instrument that has already been proven to be legitimate and served as the form of validity tested in this study. There are two types of criterion-related validity: concurrent validity and predictive validity. Concurrent validity is assessed when data is collected on one measure, another measure is administered in about the same time frame, and the data for these two measures are compared to examine whether they achieved the same results. Predictive validity is the extent to which a score on a given scale or test predicts scores on some other criterion measure.

Sociometry

Sociograms were utilized in this study both to gather data and as visual depictions of the correlations between the teacher and principal surveys and the live interview results from the ICIS interview instrument. According to Durland Consulting, sociograms are, "maps, graphic pictures, or images of a kind of relationship; they are illustrations of a relationship at a point in time" (2003: 3). Sociometry is defined as, the quantitative study of interpersonal relationships in populations (The American Heritage Dictionary, Second Edition).

Sociograms were developed by Jacob L. Moreno. They foster the understanding of social relationships, channels of influence in an organization and display lines of communication. Sociograms exhibit how individuals within an organization view one another. "Sociograms, showing the connection of individuals in organizations in specific and relevant ways, provide complex pictures of actors dependent on each other that go beyond the usual sociological representations of independent actors as sets of attributes" (Hogan, Carrasco and Wellman 2007: 117).

Sociograms can be broken down into two distinct correlates: Individual Phenomena and Group Phenomena. They can then be utilized to study the patterns of individuals or the patterns of groups of individuals. They chart or graph the social networks within an organization and highlight the social links individuals within an organization have with one another. Managers can utilize this information to effectively group people for work related projects or to provide appropriate training to those demonstrating deficiencies with their interpersonal skills or inabilities to get along with colleagues. Sociograms provide insight to

understanding the relationships in work places thus allowing for the creation of teams or even restructuring groups within an organization to work more effectively towards the organization's goals and initiatives. For this study, the use of sociograms depicted the research results visually thus enhancing the understanding of the relationships of the individual teachers to one another as well as to their scores on the ICIS interview instrument.

Chapter 4: Analysis of Data

Purpose of Study

The purpose of this study was to determine if the Working with Others Scale from the American Association of School Personnel Administrators (AASPA) Interactive Computer Interview System (ICIS) was a valid predictor of practicing teachers' interpersonal skills and abilities to work well with colleagues. Teacher and principal survey responses regarding staff members' interpersonal skills and live interview scores from the Working with Others scale of the ICIS interview instrument made up the data for this study.

Descriptive Statistics

Tables 4, 5, 6 and 7 depict the means and standard deviations for responses to the Teacher Surveys A and B, the Principal Survey, and the overall scores from the ICIS interviews. For Surveys A and B, the means indicate the average number of times a teacher was nominated by his or her colleagues. The Principal Survey was based on a 5 point scale where 1 represented a low estimation.

Table 4. Descriptive Statistics: Teacher Survey A, (N=60)

Survey Question	Mean	Standard Deviation
A1: Identify three or fewer individuals on staff who have a pleasant disposition or personality.	7.18	5.60
A2: Identify three or fewer individuals on staff you would go to of you needed assistance solving a personal problem.	3.27	3.24
A3: Identify three or fewer individuals on staff who have developed a reputation for establishing a positive rapport with the parents, staff and students in your school community.	3.55	4.33
A4: Identify three or fewer individuals on staff who have a keen sense of humor.	3.32	4.33
A5: Identify three or fewer individuals on staff who adapt well to working in all environments and with a diverse group of people.	3.68	3.02
A6: Identify three or fewer individuals on staff you consider to be highly sociable and leaders when it comes to organizing and attending staff events.	2.12	3.95
A7: If you were upset or sad about a situation, who would you turn to on staff for comfort?	2.38	2.94
A8: Select up to three staff members you would trust with confidential information.	2.42	2.73
A9: Identify three or fewer individuals on staff who remain calm in stressful situations.	3.57	3.18
A10: Identify three or fewer individuals on staff who handle themselves with poise in situations that evoke conflict or anger.	3.35	3.01
A Mean	3.48	2.60
A TOTAL	34.83	26.00

Table 5. Descriptive Statistics: Teacher Survey B, (N=60)

Survey Question	Mean	Standard Deviation
B1: Identify three or fewer individuals on staff who have an unpleasant disposition or personality.	1.57	2.61
B2: Identify three or fewer individuals on staff who you would not go to if you needed assistance in solving a problem either professional or personal.	1.98	2.63
B3: Identify three or fewer individuals on staff who have developed a reputation for having troubled relationships with the parents, staff and students in your school community.	1.20	2.62
B4: Identify three or fewer individuals on staff who do not have a keen sense of humor.	1.27	1.54
B5: Identify three or fewer individuals on staff who have difficulty working in all environments or with diverse groups of people.	1.25	1.81
B6: Identify three or fewer individuals on staff who are not social or involved in leading or attending staff events.	1.53	2.13
B7: If you were upset or sad about a situation, who would you not turn to on staff for comfort?	1.82	2.29
B8: Select three or fewer staff members you would not trust with confidential information.	1.37	2.74
B9: Identify three or fewer staff members who react negatively or in a volatile manner when responding to stressful situations.	1.15	2.26
B10: Identify three or fewer individuals who respond poorly to situations that evoke conflict or anger.	1.03	1.79
B Mean	1.42	1.78
B TOTAL	14.17	17.76

Table 6. Descriptive Statistics: Principal Survey, (N=60)

Survey Question	Mean	Standard Deviation
P1: The teacher displays a pleasant disposition and relates well with all of the stakeholders of the school community: principal, staff, students and parents.	4.62	.72
P2: The teacher can be trusted with confidential information.	4.15	1.02
P3: The teacher is involved in school/community activities that have enhanced student learning.	3.77	1.06
P4: The teacher works well with diverse groups of students and differentiates lessons to meet their needs.	4.50	.70
P5: The teacher has effective problem solving skills.	4.37	.74
P6: The teacher responds to constructive feedback from the principal, colleagues and parents.	4.38	.83
P7: The teacher effectively communicates with the parents of his/her students.	4.38	.85
P8: The teacher responds appropriately when a parent brings a concern or complaint to his or her attention.	4.65	.52
P9: The teacher follows district policies and procedures.	4.53	.65
P10: The teacher is active in curriculum development or school improvement activities.	3.73	1.02
Principal Mean	4.31	.60

Table 7. Descriptive Statistics: The ICIS Instrument, (N=60)

ICIS Instrument	Mean	Standard Deviation
Working with Others	2.66	.28
Knowledge of Content	2.79	.27
Knowledge of Teaching	2.81	.23
Knowledge of Subject Matter	2.84	.24
ICIS TOTAL	2.76	.19

Survey Reliability

Upon examination of the survey reliability results, it was noted that for Survey A, Cronbach's alpha measured .882, indicating a strong correlation amongst survey items. Table 8 displays the inter-item correlations and Table 9 displays the item-total statistics for Survey A. Two survey items (A4 and A6) demonstrated lower correlations with the total scale from of Teacher Survey A thus causing dispersion in the data set. The content of the items from A4 (having a keen sense of humor) and A6 (organizing and attending staff social events) may not relate well to the assessment of individuals' interpersonal skills.

Table 8. Survey A Inter-Item Correlation Matrix

	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
A1	1.000	.572**	.755**	.186	.649**	.186	.579**	.566**	.552**	.668**
A2		1.000	.746**	.166	.634**	.225	.670**	.738**	.637**	.783**
A3			1.000	.215	.653**	.385**	.742**	.783**	.491**	.681**
A4				1.000	.197	.095	.295*	.164	.220	.129
A5					1.000	.141	.567**	.613**	.653**	.692**
A6						1.000	.366**	.335**	-.020	.100
A7							1.000	.868**	.221	.495**
A8								1.000	.427**	.655**
A9									1.000	.842**
A10										1.000

*p<.05

**p<.01

Table 9. Survey A Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's alpha if Item Deleted
A1	27.65	469.418	.722	.692	.866
A2	31.57	546.894	.784	.764	.860
A3	31.28	492.647	.856	.803	.850
A4	31.52	606.288	.239	.295	.901
A5	31.15	561.519	.735	.638	.864
A6	32.72	608.918	.264	.226	.896
A7	32.45	563.675	.742	.878	.864
A8	32.42	566.484	.786	.856	.863
A9	31.27	573.995	.604	.845	.872
A10	31.48	557.305	.770	.853	.862

For Survey B, Cronbach's alpha measured .928, indicating strong internal consistency amongst survey questions. Table 10 displays the inter-item correlations and Table 11 displays the item-total statistics for Survey B. Items B4 (not demonstrating a keen sense of humor) and B6 (lack of participation in the organization and attendance of staff social events) demonstrated weak correlations with the total scale of the survey and may not be good predictors of one's interpersonal skills, which is the concentrated focus of this study.

Table 10. Survey B Inter-Item Correlation Matrix

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
B1	1.000	.800**	.852**	.559**	.803**	.164	.756**	.737**	.815**	.794**
B2		1.000	.709**	.420**	.639**	.229	.775**	.754**	.645**	.691**
B3			1.000	.482**	.668**	.233	.599**	.647**	.855**	.821**
B4				1.000	.456**	.355**	.418**	.225	.412**	.460**
B5					1.000	.233	.613**	.688**	.678**	.648**
B6						1.000	.379**	.062	.082	.165
B7							1.000	.651**	.523**	.574**
B8								1.000	.718**	.745**
B9									1.000	.902**
B10										1.000

*p<.05

**p<.01

Table 11. Survey B Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's alpha if Item Deleted
B1	12.60	235.024	.914	.908	.910
B2	12.18	241.237	.823	.759	.915
B3	12.97	239.762	.845	.832	.914
B4	12.90	285.990	.517	.480	.930
B5	12.92	265.976	.779	.701	.920
B6	12.63	293.185	.241	.394	.943
B7	12.35	254.469	.761	.740	.919
B8	12.80	243.146	.755	.762	.920
B9	13.02	251.881	.812	.879	.916
B10	13.13	263.270	.843	.855	.917

A Cronbach's alpha of .897 was calculated for the Principal Survey, indicating strong internal consistency of the survey items. Table 12 displays the inter-item correlations and Table 13 displays the item-total statistics for the Principal Survey.

Table 12. Principal Survey Inter-Item Correlation Matrix

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
P1	1.000	.497**	.326*	.051	.239	.454**	.359**	.550**	.520**	.344**
P2		1.000	.376**	.248	.421**	.674**	.501**	.552**	.668**	.525**
P3			1.000	.477**	.458**	.471**	.553**	.313*	.428**	.581**
P4				1.000	.526**	.425**	.529**	.305*	.335**	.473**
P5					1.000	.686**	.669**	.479**	.435**	.583**
P6						1.000	.612**	.600**	.781**	.605**
P7							1.000	.664**	.639**	.453**
P8								1.000	.769**	.367**
P9									1.000	.472**
P10										1.000

*P<.05

**p<.01

Table 13. Principal Survey Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's alpha if Item Deleted
P1	38.47	31.168	.487	.429	.896
P2	38.93	27.419	.664	.577	.887
P3	39.32	27.678	.604	.492	.893
P4	38.58	31.095	.509	.431	.895
P5	38.72	29.562	.683	.698	.885
P6	38.70	27.841	.809	.795	.876
P7	38.70	28.180	.744	.695	.880
P8	38.43	31.402	.676	.706	.889
P9	38.55	29.777	.757	.808	.882
P10	39.35	27.282	.678	.561	.886

All of the surveys demonstrated strong internal correlation; however, items A4, A6, B4, and B6, did not correlate strongly with their respective scales causing doubt in the quality of the questions and how they assess an individual's interpersonal skills. The content of these items

may not relate well to one's interpersonal skills or how one gets along with his or her colleagues. The extreme results of these items when analyzed for internal correlation for the total scales within the surveys skewed the data and created a barrier to the overall study. Due to the minimal level of correlation amongst other survey items, and that their removal would increase the overall reliability or Cronbach's alpha of the scales, items A4, A6, B4 and B6 were removed from the study. No items were removed from the Principal Survey due to the strong internal relationship between all survey items.

Once items mentioned above were deleted, revised Cronbach's alphas were calculated to assess the internal consistency of both teacher surveys and the principal survey. For revised Teacher Surveys A and B, and the recalculated Cronbach's alphas measured .922 and .950, respectively, indicating strong internal consistency. Appendix E highlights the revised inter-item correlations of Teacher Surveys A, B and the Principal Survey.

Table 14. Descriptives for Revised Survey Means

Survey	Min	Max	Mean	Std Dev
A Mean	.13	15.00	3.67	2.91
B Mean	0.00	11.25	1.42	2.04
P Mean	3.73	4.65	4.31	.60

Concurrent Validity

Correlations between all of the means from the surveys and the correlates of the ICIS interview instrument were analyzed once items A4, A6, B4, and B6, were removed. The means

from Teacher Surveys A, B and the Principal Survey, Working with Others mean, Knowledge of Content, Knowledge of Teaching, Knowledge of Students and the Total mean for the ICIS interview instrument were correlated to measure internal consistency. Survey A demonstrated the greatest correlation to the Working with Others mean, as well as the Total mean from the ICIS interview instrument than did any of the other surveys utilized in the research study.

Table 15. Correlations Between Means

	A	B	P	WWO	KC	KT	KS	Total
Amean	1.000	-.373**	.398**	.206	.298*	.246	.256*	.340**
Bmean		1.000	-.495**	.172	.068	.114	-.007	.124
Pmean			1.000	.055	.065	.013	.113	.070
WWOmean				1.000	.370**	.486**	.402**	.775**
KCmean					1.000	.309*	.272*	.625**
KTmean						1.000	.321*	.820**
KSmean							1.000	.615**
Totalmean								1.000

*P<.05

**p<.01

A Pearson-Product Correlation procedure was utilized to test for concurrent validity between the Working with Others mean and Teacher Survey A, Survey B, and the Principal Survey mean. The concurrent validity for Survey A resulted in a correlation of r= .206 (p=.114). The correlation for Survey B was r=.172 (p=.189). The Principal Survey resulted in a correlation of r=.055 (p=.678). The Principal Survey demonstrated the poorest correlation to the Working with Others sub-scale of the ICIS instrument. These results indicated with some confidence that Teacher Survey A was the most significantly correlated survey measure of teacher's interpersonal skills with the Working with Others sub-scale of the ICIS instrument. Survey A also

demonstrated concurrent validity between all of the correlates of the ICIS instrument. A correlation of r=.298 (p=.021) was noted between Survey A and the Knowledge of Content correlate of the ICIS instrument, r=.246 (p=.058) and the Knowledge of Teaching correlate, r=.256 (p=.058) and the Knowledge of Students correlate. Finally, Survey A demonstrated the strongest correlation to the Total mean from the ICIS interview instrument with r=.340 (p=.008), thus emphasizing how Survey A had the capacity to measure a teacher's interpersonal skills as well as other critical skills needed to be successful in the classroom.

Regression Analysis- Predicting Working with Others Scores

The predictive relationship amongst the Teacher Survey A mean, the Survey B mean, the Principal Survey mean and the ICIS Working With Others subscale mean was determined utilizing sequential regression analysis. The first step in the analysis examined the Teacher Survey A mean as a predictor of the Working with Others mean with a significance of F (1,58)=2.580 (p=.114) and Adjusted R^2=.026 . The mean for Survey A was not found to be a significant predictor of the Working with Others mean with t=1.606 (p=.114) in this first model. When the mean from Survey B was added to the model to assess the amount of variance in the Working with Others mean, the regression model was significant with F (1,57)= 4.640 (p=.035) and Adjusted R^2=.084. Survey B proved to be a significant predictor of the Working with Others mean with t=2.154(p=.035). Survey A became a significant predictor of the WWO mean t= 2.340, (p= .023) when Survey B was added to the model. Together, Surveys A and B were significant predictors of the Working with Others mean. These results demonstrate that the perceptions teachers have of their colleagues seem to be predictive of the Working with Others

mean, thus indicating the reliability of Surveys A and B. This comparison of the Survey A and B means with the ICIS Working With Others mean provides some evidence that the ICIS instrument is an effective predictor of a job candidate's interpersonal skills. When the Principal Survey mean was added to the regression model in step three, a non-significant R^2 resulted. The regression model did not demonstrate notable significance with F change (1,56)=.485 (p=.489) and the Adjusted R^2 decreased to .075. The principal survey mean did not prove to add additional information to the prediction equation with t=.696 (p=.489).

Table 16. Sequential Regression for Predicting the WWO Mean

	Model 1					Model 2					Model 3				
Variable	B	SE B	β	t	p	B	SE B	β	t	p	B	SE B	β	t	p
Constant	2.588	0.58		44.79	0.000	2.493	0.071		35.011	0.000	2.284	0.309		7.380	0.000
Survey A Mean	0.02	0.012	0.206	1.606	0.114	0.30	0.013	.314	2.340	0.023	.028	.013	.289	2.063	0.440
Survey B Mean						.040	0.018	0.289	2.154	0.035	.045	.020	.331	2.242	0.029
Principal Mean											.049	.070	.104	0.696	0.489
Adjusted R^2	0.026					0.084					0.075				
F for change in R^2	F(1,58)=2.580 (p=0.114)					F(1,57)=3.691 (p=0.031)					F(1,56)=2.600 (p=.061)				

Predicting Total ICIS Scores

The predictive relationship amongst the Teacher Survey A mean, the Survey B mean, the Principal Survey mean and the ICIS Total mean was determined utilizing sequential regression analysis (Table 17). The first step in this analysis examined the Teacher Survey A mean as a predictor of the Total ICIS mean, and the regression model was significant with F (1,58)=7.589 (p=.008) and adjusted R^2=.100. The mean for Survey A was found to be a significant predictor of

the Total ICIS mean with t=2.755 (p=.008). In the second step of the analysis, the Survey B mean was added to the model, and this model also demonstrated significance with F (1,57)= 5.152 (p=.027) and adjusted R^2=.161. Survey B proved to be a significant predictor of the Total ICIS mean with t=2.270 (p=.027), Survey A became a more significant predictor in the model with t=3.493 (p=.001). Thus indicating that Teacher Surveys A and B were significant predictors of the Total ICIS mean. However, when the Principal Survey was added as a third step to the analysis, the significance levels declined overall with F (1,56)=.127 (p=.723) and adjusted R^2=.147. The Principal Survey mean did not prove to be a significant predictor of the Total ICIS mean with t=.356 (p=.723).

Both Survey A and Survey B proved to be significant predictors of the Total mean of the ICIS instrument indicating that the survey instruments measured interpersonal skills as well as other knowledge areas needed by all teachers.

Table 17. Sequential Regression for Predicting the Total ICIS Mean

	Model 1					Model 2					Model 3				
Variable	B	SE B	β	t	p	B	SE B	β	t	p	B	SE B	β	t	p
Constant	2.681	0.037		73.057	0.000	2.617	0.045		58.118	0.000	2.549	0.196		12.987	0.000
Survey A Mean	0.022	0.008	0.340	2.755	0.008	0.029	0.008	.449	3.493	0.001	.028	.009	.436	3.249	0.002
Survey B Mean						.026	0.012	0.292	2.270	0.027	.028	.013	.312	2.202	0.032
Principal Mean											.016	.045	.051	0.356	0.723
Adjusted R^2	0.100					0.073					0.002				
F for change in R^2	F(1,58)= 7.589 (p=0.008)					F(1,57)= 5.152 (p=0.027)					F(1,56)= .127 (p=.723)				

Sociograms

Figure 1 represents the data collected from the teacher surveys, A and B. The upper half of the sociogram represents the positive nominations made by teachers of their colleagues where the bottom half of the sociogram represents the negative nominations from the survey items. The shapes represent the subjects from the two schools participating in the research study. Each subject is represented by one symbol in the positive nominations portion of the sociogram and one symbol in the negative nominations portion of the sociogram. Hence, each subject has a total of two symbols.

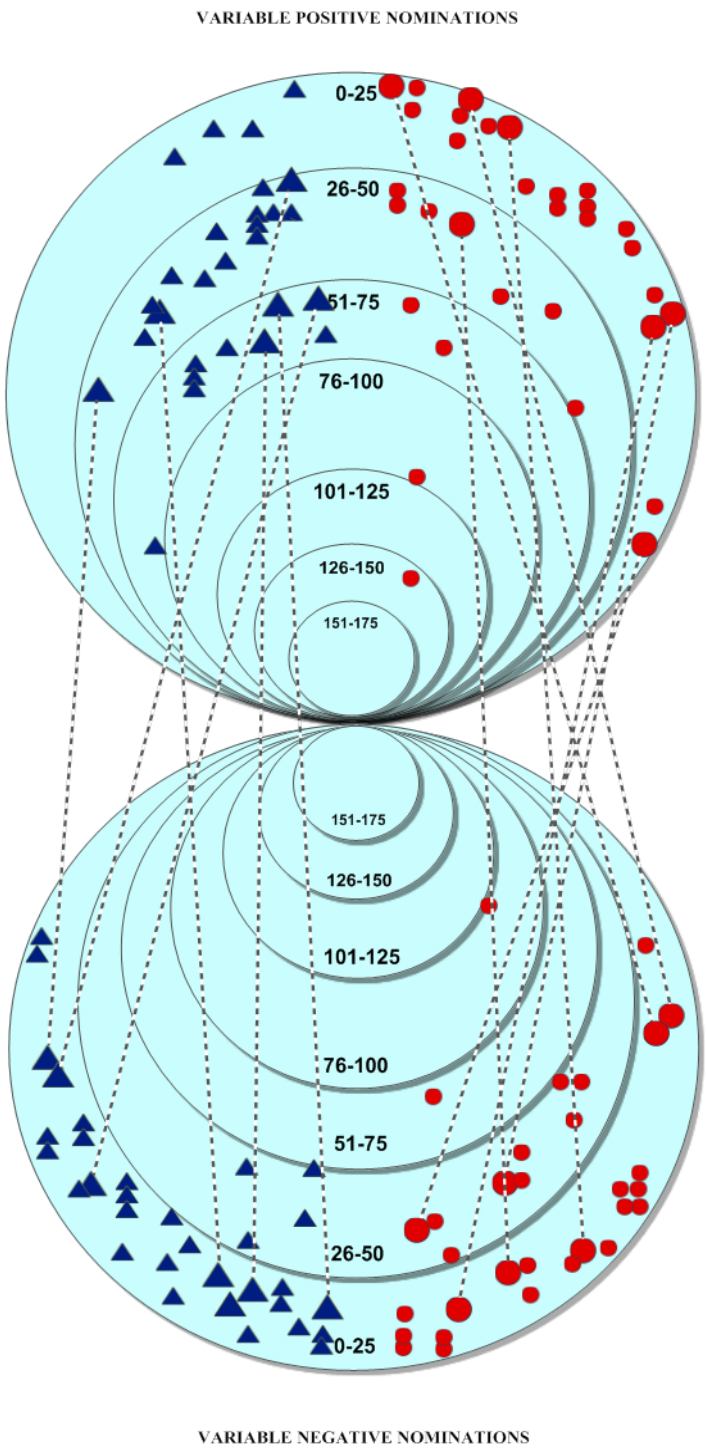
Numbers within the rings of the circles indicate the frequency interval for the positive and negative nominations. Subjects placed closer to the center of the rings received a higher number of nominations in each numeric category. Subjects placed towards the edges of the rings received fewer nominations from their peers in each numeric category.

In order to analyze the overall trend of the data from the surveys, subjects were selected at random; their positive nominations were correlated to their negative nominations. Every fifth subject was chosen and they were represented on the sociogram as the larger shapes. Lines were drawn from their shape in the positive nomination portion of the figure to the negative portion of the figure thus creating a visual representation of the data set.

The overall trend of the data from the teacher surveys was that those who received a large number of positive nominations from their peers received very few negative nominations. The reverse was true as well in that the individuals who received a large number of negative nominations from their peers received very few positive nominations.

Employers may wish to identify the subjects when analyzing sociograms so as to utilize the data to improve the interpersonal relationships of employees. For the purpose of this study, the identity of the subjects was kept anonymous (Figure 1).

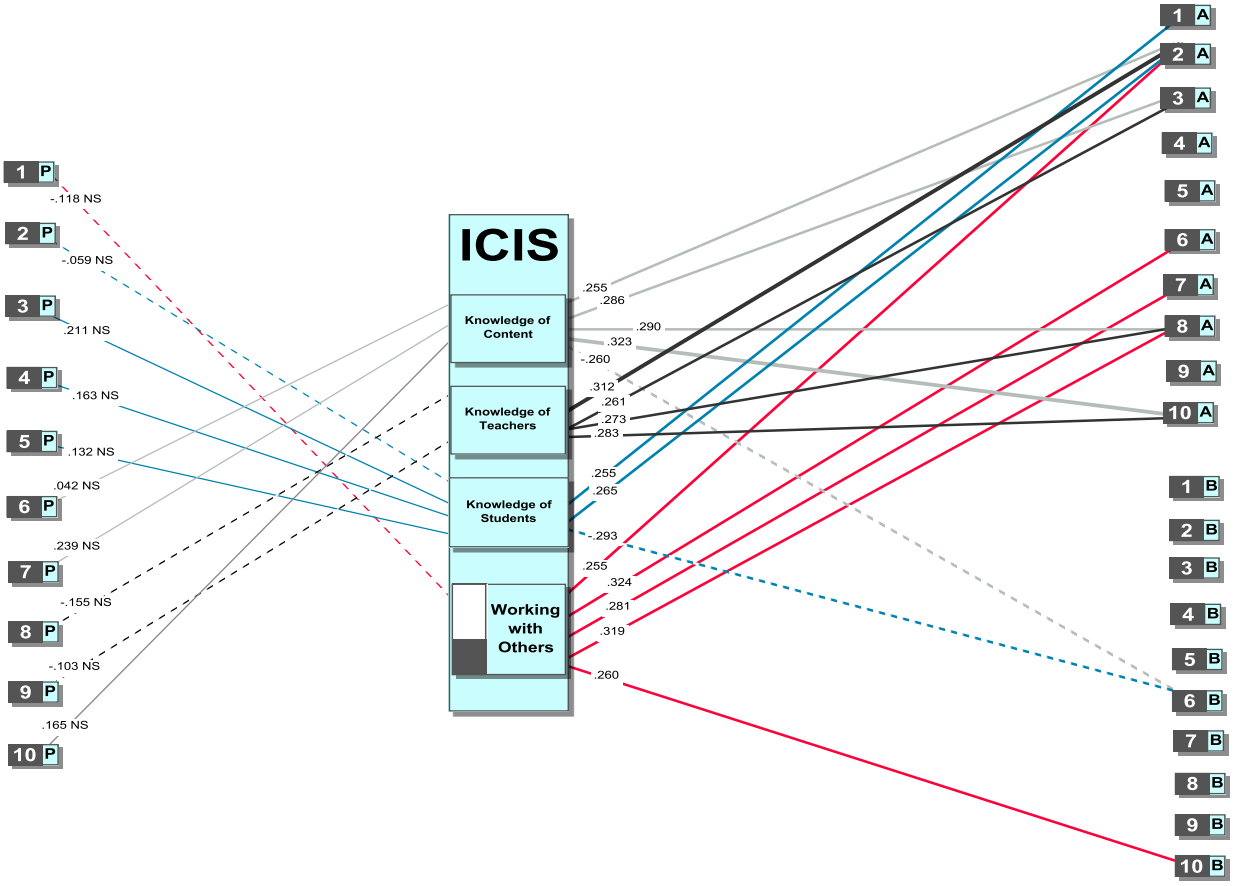
Figure 1. Positive/Negative Nominations Sociogram



The data portrayed in Figure 2 represents the significant correlations amongst the scales that comprise the ICIS interview instrument and the principal and teacher surveys utilized for this study. The Working with Others scale is depicted as a larger symbol than are the other scales from the ICIS interview instrument as it was the primary focus of this study and the scale from which the survey items were developed.

Principal survey items are highlighted on the left portion of the sociogram and the Teacher Surveys A and B are notated to the right of the sociogram. Lines are drawn from each scale of the ICIS instrument to the survey questions demonstrating significant positive and negative correlations. The correlations are noted numerically on the lines connecting the ICIS scales to the survey items. As noted earlier in the study, no significant correlations were found between the Principal Survey questions and the Working with Others scale from the ICIS instrument. However, there were significant correlations of the Working with Other Scale of the ICIS instrument with Survey A as well as one item from Survey B. Non-significant correlations were denoted with an NS on the line of correlation. Bold lines indicated a strong correlation where dotted lines indicated a strong negative correlation (Figure 2).

Figure 2. Correlation Sociogram



Chapter 5: Discussion and Conclusions

Resulting Conclusions

The results from this research study indicate that the Interactive Computer Interview System is a moderate predictor of teachers' interpersonal skills and a reliable scale when assessing teachers as per their interpersonal skills. Multiple statistical assessments support the research hypothesis and the need for school districts to utilize a structured interview protocol.

Ninety-nine percent of businesses utilize the interview process for all hiring responsibilities, including school districts (McDaniel, Whetzel, Schmidt and Mauer 1994).

Future educators may have demonstrated intellectual competence at the university level in the academic rigor required to become a teacher; however, one's interpersonal skills weigh in on predicting work place success with equal if not greater importance (Goleman 1995, 2000; Curtis and Nestor 1990; Blackman and Funder 2000). School administrators have multiple venues to assess applicants' intellectual competencies such as grade point averages and test scores; however, the live interview process is the only opportunity available to school administrators to assess job applicants' interpersonal skills. Research from this study supports the use of a structured interview protocol, namely the Interactive Interview Computer System (ICIS) developed by Dr. Howard Ebmeier at the University of Kansas.

The ICIS instrument, as compared to the results of Teacher Surveys A and B total means, demonstrated with some significance that it is a valid and reliable instrument that has a moderate capacity to predict the interpersonal skills of teachers through interview questions designed specifically to assess these traits. Teacher Survey A demonstrated the greatest overall correlation to the ICIS instrument, and three items from Survey A correlated with significance to the Working with Others correlate of the ICIS instrument: item A2 (seeking assistance with a personal problem), item A7 (who to turn to for comfort), and item A8 (who to trust with confidential information). The content of these items is similar in that they pertain to issues of trust. A conclusion could be drawn from these results that trust is a trait highly regarded by one's peers as to how well they interact and relate to one another.

The Principal Survey totals did not correlate as significantly to the Working with Others correlate of the ICIS interview instrument as did the teacher surveys. Perhaps the reasoning for this phenomenon in the data has to do with the autonomous relationship that exists between teacher and principal (Reyes and Hoyle 1992). Principals don't have the luxury to befriend teachers due to the evaluative nature of their relationship. Their jobs also involve many interruptions, and are hectic and fast paced thus diminishing quality time for them to develop personal relationships with their teachers thus making them less equipped to assess their interpersonal skills (Eisenhauer, Willower and Licata 1984-1985).

Limitations and Suggestions for Future Research

When presented with survey questions, twelve out of the seventy-seven teachers did not participate due to personal reasons. These teachers opted out of the study indicating that they did not feel comfortable completing the survey. They did not wish to hurt the feelings of their colleagues. They were fearful that their colleagues would learn what others thought of them. Some indicated that they did not want their principals to know how they felt about their colleagues. Teachers were assured of the confidentiality of the professional study. However, there was a lack of trust as well as a level of fear as it related to assessing colleagues regarding interpersonal skills. Interestingly, for those who did participate, they placed more tallies about their colleagues as it related to their positive interpersonal traits rather than the negative interpersonal traits: 2,463 tallies were recorded assessing positive interpersonal traits and 940 tallies were recorded assessing the negative interpersonal traits of colleagues. In fact, seven

teachers only completed the positively phrased questions and left the negative portion of the survey blank. Overall, there was some reticence to assess colleagues in a negative light.

Other limitations concerning the teacher surveys included the fact that teachers who were new to the staff did not have the background or years of experience to interact with and get to know their colleagues. Perhaps, they were at a disadvantage when completing the survey and could not do so with the same amount of accuracy as a veteran staff member. Also, there were several members of the staff who were considered itinerant in that they provided services at multiple schools in the school district. For example, the orchestra teachers for both of the elementary schools travel and work in multiple buildings throughout each week. Getting to know staff members is more challenging with limited opportunities for interaction.

As discussed in the data analysis, the survey questions for both the teachers and the principals were developed by the researcher and although they demonstrated internal reliability in this study, the validity of the surveys remains untested.

Two principals took part in this research study thus creating a small data set and a potential limitation to the study. The competency of each principal was not assessed and could have been a critical factor in collecting reliable and valid data if either principal's professional skills were compromised.

The live interviews were conducted by a retired educator who trained and demonstrated proficiency with the ICIS interview system. Although she was well prepared for the interviews, there is potential for bias any time an individual assesses another individual.

There was a rubric for assessing each person; however, one must consider that some subjectivity may enter the process of the evaluation of interview candidates. The live interviews were scheduled for each school over a two day period. Although some interviews were back to back, adequate breaks were provided for the interviewer. However, it is tiring to interview such a high volume of teachers, approximately thirty interviews per school over a two day period. This number of interviews is much greater than in a typical interview setting for a single job opening. Exhaustion of the interview process creating a lack of judgment could play a role in the assessment of candidates and ultimately create a limitation to the study.

The results from this study demonstrated that the teacher surveys correlated with greater significance to the Total mean from the ICIS interview instrument than to the mean from the The Working with Others scale, one correlate of the ICIS interview instrument. A limitation to this study may be that far fewer questions are generated from one correlate of the instrument as compared to all of the correlates analyzed as a whole or the total mean for the instrument. Hence, the surveys demonstrated stronger correlation to the total mean from the ICIS interview instrument due to a larger data set.

Continued research analyzing the hiring process and how it relates to predicting the interpersonal skills of teachers is needed for there is scarce information in this critical area. The majority of school districts utilize an unstructured rather than structured interview process. Future research could analyze and compare these methods as predictors of hiring individuals with strong interpersonal skills. Longitudinal studies of teacher retention and professional success as compared to how they were interviewed and hired could provide further insight as

to the effectiveness of the structured interview process. The role of teaching has been debated over the centuries; however, the need for teachers to possess competent interpersonal skills has always been at the crux of this argument. If a teacher's personality is one of the most important qualities contributing to his or her professional success, then the use of an interview protocol able to predict these traits is vital (Bessom 1980). Research from this study lends support that a structured interview instrument has the capacity to predict and identify such teachers.

References

Abbott, A. *Time Matters: On Theory and Method*. A. Abbott. Chicago: University of Chicago Press, 2001. 37-63.

American Association of School Personnel Administrators (AASPA). *Teachers of the Future: A Continuous Cycle of Improvement*. Olathe, Kansas: 1997.

American Association of School Personnel Administrators (AASPA). *Interactive Computer Interview System*. Olathe, Kansas: 2003.

Arneson, S. T. "The Worker Characteristics Inventory: A Methodology for Assessing Personality During Job Analysis." *Dissertation Abstracts International* 48.7 (1988): n. page. Web.

Arnold, K. *Lives of Promise: What Becomes of High School Valedictorians: A 14 Year Study of Achievement and Life Choices*. Jossey-Bass Incorporated Publishers, 1992.

Arvey, R., and J. Campion. "The Employment Interview: A Summary and Review of Recent Research." *Personnel Psychology, Inc.*. 35. (1982): 281-322. Print.

Baird, L. L. "Do Grades and Tests Predict Adult Accomplishment?" *Research in Higher Education*. 23.1 (1985): 3-85. Print.

Bass, B. M. "Selecting Personnel by Observation." *Personnel*. 26. (1950): 269-272. Print.

Bessom, M, A. M. Tatarunis, and S. L. Forcucci. *Teaching Music in Today's Secondary Schools*. New York: Holt, Rinehart and Winston, 1980. 5.

Billingsley, B. S. "Teacher Retention and Attrition in Special and General Education: A Critical Review of the Literature." *Journal of Special Education*. 27.2 (1993): 137-174. Print.

Blackman, M. C., and D. C. Funder. "Effective Interview Practices for Accurately Assessing Counterproductive Traits." *International Journal of Selection and Assessment*. 10.1/2 (2002): 109-116. Print.

Boyatzis, R. E., D. Goleman, and K. Rhee. *Clustering Competence in Emotional Intelligence: Insights from the Emotional Competence*

Inventory, Handbook for Emotional Intelligence. San Francisco: Prepared for ReuvanBar-On and James D. A. Parker, 1999.

Brickell, H. M. "What Can You Do with Sociograms." *English Journal*. 39.5 (1950): 256-261. Print.

Campion, M. A., J. E. Campion, and D. K. Palmer. "A Review of Structure in the Selection Interview." *Personnel Psychology, Inc.* (1997): 655-702. Print.

Campion, M. A., J. E. Campion, and P. Hudson, Jr. "Structured Interviewing: A Note on Incremental Validity and Alternative Question Types." *Journal of Applied Psychology*. 79.6 (1994): 998-1002. Print.

Certo, J. L., and J. Englebright-Fox. "Retaining Quality Teachers." *High School Journal*. 86.1 (2002): 57-75. Print.

Coleman, J. S., and T. Hoffer. *Public and Private High Schools: The Impact of Communities*. New York: Basic Books, 1987.

Cucina, J. M., N. L. Vasilopoulos, and K. G. Sehgal. "Personality-Based Job Analysis and the Self-Serving Bias." *Journal of Business and Psychology*. 20.2 (2005): 275-290. Print.

Curtis, R. V., and D. Nestor. "Interpersonal Skill-Building for Instructional Developers." *Educational Technology Research and Development*. 38.2 (1990): 51-59. Print.

Darling-Hammond, L. "Restructuring Schools for Student Success." *Daedalus*. 124.4 (1995): 153-162. Print.

Darling-Hammond, L. United States. National Commission on Teaching and America's Future. *Solving the Demands of Teacher supply, Demands and Standards: How We Can Ensure a Competent, Caring and Qualified Teacher for Every Child*. Columbia, 1999. Print.

Delli, D. A., and E. M. Vera. "Psychological and Contextual Influences on the Teacher Selection Interview: A Model for Future Research." *Journal of Personnel Evaluation in Education*. 17.2 (2003): 137-155. Print.

Durland Consulting, Inc., *Understanding Sociograms.* Elburn, IL: 2003. 1-6.

Ehrhart, K. H. "Job Characteristic Beliefs and Personality as Antecedents of Subjective Person-Job Fit." *Journal of Business and Psychology*. 21.2 (2006): n. page. Print.

Eisenhaurer, J. E., D. J. Willower, and J. W. Licata . "Role Conflict, Role Ambiguity, and Principals' Job Robustness." *Journal of Experimental Education*. 53.2 (1984-1985): 86-90. Print.

Emley, K., and H. Ebmeier. "The Effect of Employment Interview Format on Principals' Evaluations of Teachers." *Journal of Personnel Evaluation in Education*. 11. (1997): 39-56. Print.

Epstein, J. L. "A Question of Merit: Principals' and Parents' Evaluation of Teachers." *Educational Researcher*. 14.7 (1985): 3-10. Print.

Fisher, R. E. "Personal Skills: Passport to Effective Teaching." *Music Educators Journal*. 77.6 (1991): 21-25. Print.

Gardner, H. *Multiple Intelligences*. New York: Basic Books: A Member of the Perseus Books Group, 1993.

Gardner, H. "Cracking Open the IQ Box." *American Prospect*. 20. (1995): 71-80. Print.

Gardner, H. *Frames of Mind: The Theory of Multiple Intelligences*. New York: Basic Books: A Member of the Perseus Books Group, 1983.

Gardner, H., and T. Hatch. "Multiple Intelligences Go to School." *Educational Researcher*. 18.8 (1989): 4-9.

Gifford, R. "Nonverbal Cues in the Employment Interview: Links Between Applicant Qualities and Interviewer Judgments." *Journal of Applied Psychology*. 70.4 (1985): 729-736. Print.

Goleman, D. *Emotional Intelligence*. New York: Bantam Dell, A Division of Random House, Inc., 1995.

Goleman, D. "Leadership that Gets Results." *Harvard Business Review*. March-April (2000): n. page. Print.

Goleman, J., and T. Hoffer. *Public and Private Schools: The Impact of Communities*. New York: Basic Books, 1987.

Hallinan, M. T. "Teacher Influence on Students' Attachment to School." *Sociology of Education*. 81.July (2008): 271-283. Print.

Hogan, B., J. A. Carrasco, and B. Wellman. "Visualizing Personal Networks: Working with Participant-Aided Sociograms." *Field Methods*. 19.2 (2007): 116-144. Print.

Huck, S. W. *Reading Statistics and Research*. Pearson Education, Inc., 2008. 88-98.

Huffcutt, A. I., and W. Arthur, Jr. "Hunter and Hunter Revisited: Interview Validity for Entry-Level Jobs." *Journal of Applied Psychology*. 67. (1994): 184-190. Print.

Ickes, W., M. Snyder, and S. Garcia. *Personality Influences on the Choice of Situations, Handbook of Personality Psychology*. R. Hogan, ed. Orlando, FL: Academic Press, 1997.

Ingersoll, R. M. "Teachers' Decision Making Power and School Conflict." *Sociology of Education*. 69.2 (1996): 159-176. Print.

Jackson, M. "Personality Traits and Occupational Attainment." *European Sociological Review*. 22.2 (2006): 187-199. Print.

Jencks, C. *Who Gets Ahead? The Determinants of Economic Success in America*. New York: Basic Books, 1979.

Kreuter, G. "The Vanishing Genius: Lewis Terman and the Stanford Study." *History of Education Quarterly*. 2.1 (1962): 6-18. Print.

Latham, G. P., and L. M. Saari. "Do People Do What They Say? Further Studies on the Situational Interview." *Journal of Applied Psychology*. 69. (1984): 569-573. Print.

Latham, G. P., L. M. Saari, M. A. Campion, and E. D. Pursell. "The Situational Interview." *Journal of Applied Psychology*. 65. (1980): 422-427. Print.

Mayer, J. D., and P. Salovey. "The Intelligence of Emotional Intelligence." *Intelligence*. 17. (1993): 440. Print.

Mayfield, E. C. "The Selection Interview: A Reevaluation of Published Research." *Personnel Psychology*. 17. (1964): 239-260. Print.

Mauer, S. D., and T. W. Lee. "Accuracy of the Situational Interview in Rating Multiple Job Candidates." *Journal of Business and Psychology*. 15.1 (2000): n. page. Print.

McDaniel, M., N. Hartman, D. Whetzel, and W. L. Grubb. "Situational Judgment Tests, Response Instructions and Validity: A Meta-Analysis." *Personnel Psychology*. 60. (2007): 63-91. Print.

McDaniel, M. A., D. L. Whetzel, F. L. Schmidt, and S. D. Mauer. "The Validity of Employment Interviews: A Comprehensive Review and Meta-Analysis." *Journal of Applied Psychology*. 79.4 (1994): 599-616. Print.

McMurry, R. N. "Validating the Patterned Interview." *Personnel*. 23. (1947): 263-272. Print.

Medley, D. M., and H. Coker. "The Accuracy of Principals' Judgments of Teacher Performance." *Journal of Education Research*. 80.4 (1987): 242-247. Print.

Metzger, S. A., and M. Wu. "Commercial Teacher Interviews and their Problematic Role as a Teacher Qualification." American Educational Research Association Annual Conference. Michigan State University. Chicago. 2003. In Person.

Morin, D., and D. Pascale. "The Structured Interview: Enhancing Staff Selection (A Book Review)." *Personnel Psychology*. 63.1 (2010): 250-255. Print.

National Board for Professional Teaching Standards, First. *What Teachers Should Know and Be Able to Do*. 1997. Web. <www.nbpts.org>.

Northwest Regional Educational Laboratory, First. *Effective Schooling Practices: A Research Synthesis*. Portland: 1995 Update. Web. <www.nwrel.org>.

Oden, M. H. "The Fulfillment of Promise: 40 Year Follow-Up of the Terman Gifted Group." *Genetic Psychology Monographs*. 77. (1968): 3-93. Print.

Ouchi, W. G. "Markets, Clans and Bureaucracies." *Administrative Quarterly*. 25. (1980): 129-141. Print.

Pettersen, N., and A. Durivage. *The Structured Interview: Enhancing Staff Selections*. Sainte-Foy: Presses de l'Universite du Quebec, 2008.

Pingitore, R., B. Dugoni, S. Tindale, and B. Sprint. "Bias Against Overweight Job Applicants in a Simulated Employment Interview." *Journal of Applied Psychology*. 79.6 (1994): 909-917. Print.

Poole, V. A., and D. K. Zahn. "Define and Teach Employability Skills to Guarantee Student Success." *Clearing House*. 67.1 (1993): 55-59. Print.

Praxis Series. Princeton, NJ: Educational Testing Service, Web. <www.ets.com>.

Reyes, P., and D. Hoyle. "Teachers' Satisfaction with Principals' Communication." *Journal of Educational Research*. 85.3 (1992): 163-168. Print.

Rundquist, E. A. "Development of an Interview for Selection Purposes." *New Methods in Applied Psychology*. University of Maryland. (1947): 85-95. Print.

Schmitt, N. "Social and Situational Determinants of Interview Decisions: Implications for the Employment Interview." *Personnel Psychology*. 29. (1976): 79-101. Print.

Schmitt, N., and B. W. Coyle. "Applicant Decisions in the Employment Interview." *Journal of Applied Psychology*. 61. (1976): 184-192. Print.

Schubert, W. H. *Curriculum: Perspective, Paradigm and Possibility*. Upper Saddle River, NJ: Prentice-Hall, Inc., 1997.

Simola, S. K., S. Taggar, and G. W. Smith. "The Employment Selection Interview: Disparity among Research-Based Recommendations, Current Practices and What Matters to Human Rights Tribunals." *Canadian Journal of Administrative Sciences*. 24. (2007): 30-44. Print.

Smith, V. W., and H. Ebmeier. "The Development and Field Testing of a School Psychologist Employment Interview Instrument." *Journal of Applied Psychology*. 25. (2009): 342-363. Print.

Spingbett, B. M. "Series Effects in the Employment Interview." Diss. McGill University, 1954. Print.

Sumer, H. C., N. Sumer, K. Demirutku, and O. S. Cifci. "Using a Personality-Oriented Job Analysis to Identify Attributes to be Assessed in Officer Selection." *Military Psychology*. 13.3 (2001): 129-146. Print.

Sweeney, J., and B. Vittengl. "The Elementary Principal: A Self Portrait." *Clearing House*. 59.January (1986): 233-235. Print.

Terman, L., and M. Oden. "The Gifted Child Grows Up." *Genetic Studies of Genius*. 4, Stanford (1947): 156. Print.

Terman, L., and others. "The Promise of Youth." *Genetic Studies of Genius*. 3, Stanford (1930): 62-76. Print.

Tett, R. P., D. N. Jackson, and M. Rothstein. "Personality Measures as Predictors of Job Performance: A Meta-Analytic Review." *Personnel Psychology*. 44. (2005): 703-742. Print.

United States Office of Personnel Management. *Structured Interviews: A Practical Guide*. Washington, D. C., 2008. Print.

Ulrich, L., and D. Trumbo. "The Selection INterview Since 1949." *Psychological Bulletin*. 63.2 (1965): 100-116. Print.

Van Clieaf, M. S. "In Search of Competence: Structured Behavior Interviews." *Business Horizons*. March-April (1991): 51-55. Print.

Van der Zee, K. I., A. B. Bakker, and P. Bakker. "Why are Structured Interview so Rarely Used in Personnel Selection?." *Journal of Applied Psychology*. 87.1 (2002): 176-184. Print.

Wagner, R. "The Employment Interview: A Critical Review." *Personnel Psychology*. 2. (1949): 17-46. Print.

Wellman, B. *Social Structures: A Network Approach*. Cambridge, UK: Cambridge University Press, 1988. 19-61.

Wiesner, W. H., and S. F. Cronshaw. "A Meta-Analytic Investigation of the Impact of Interview Format and Degree of Structure on the Validity of the Employment Interview." *Journal of Occupational Psychology*. 61. (1988): 275-290. Print.

Williamson, L. G., J. E. Campion, S. B. Malos, M. V. Roehling, and M. A. Campion. "Employment Interview on Trial: Linking Interview Structure

with Litigation Outcomes." *Journal of Applied Psychology*. 82.6 (1997): 900-912. Print.

Wright, Jr., O. R. "Summary of Research on the Selection Interviews Since 1964." *Personnel Psychology*. 22. (1969): 341-413. Print.

Young, P., and H. Heneman. "Predictors of Interviewee Reactions to the Selection Interview." *Journal of Research and Development in Education*. 19.2 (1986): 29-36. Print.

Appendix

Appendix A

Teacher Survey: The University of Kansas: Dissertation Study: Fall 2010: Martha Cassidy

Concurrent Validity of the "Working with Others Scale" of the ICIS Employment Interview System

1. Identify three or fewer individuals on staff who have a pleasant disposition or personality.
2. Identify three or fewer individuals on staff who you would go to if you needed assistance in solving a professional or personal problem.
3. Identify three or fewer individuals on staff who have developed a reputation for establishing a positive rapport with the parents, staff and students in your school community.
4. Identify three or fewer individuals on staff who have a keen sense of humor.
5. Identify three or fewer individuals on staff who adapt well to working in all environments and with a diverse group of people.
6. Identify three or fewer individuals on staff you consider to be highly sociable and leaders when it comes to organizing and attending staff events.
7. If you were upset or sad about a situation, who would you turn to on staff for comfort? Select three or fewer individuals from the provided list.
8. Select up to three staff members you would trust with confidential information?
9. Identify three or fewer individuals on staff who remain calm in stressful situations.
10. Identify three or fewer individuals who handle themselves with poise in situations that evoke conflict or anger.

Appendix B

Teacher Survey: The University of Kansas: Dissertation Study: Fall 2010: Martha Cassidy

Concurrent Validity of the "Working with Others Scale" of the ICIS Employment Interview System

1. Identify three or fewer individuals on staff who have an unpleasant disposition or personality.
2. Identify three or fewer individuals on staff who you would NOT go to if you needed assistance in solving a problem either professional or personal.
3. Identify three or fewer individuals on staff who have developed a reputation for having troubled relationships with the parents, staff and students in your school community.
4. Identify three or fewer individuals on staff who do NOT have a keen sense of humor.
5. Identify three or fewer individuals on staff who have difficulty working in all environments or with diverse groups of people.
6. Identify three or fewer individuals on staff who are NOT social or involved in leading or attending staff events.
7. If you were upset or sad about a situation, who would you NOT turn to on staff for comfort? Select three or fewer individuals from the provided list.
8. Select three or fewer staff members you would NOT trust with confidential information.
9. Identify three or fewer staff members who react negatively or in a volatile manner when responding to stressful situations.
10. Identify three or fewer individuals who respond poorly to situations that evoke conflict or anger.

Appendix C

Subject: _____

Principal Survey: The University of Kansas: Dissertation Study: Spring 2011: Martha Cassidy

Please assess each subject on a five-point Likert scale with a rating of 1 indicating little proficiency in the area being evaluated and a 5 indicating high proficiency in the area being evaluated.

Concurrent Validity of the "Working with Others Scale" of the ICIS Employment Interview System

1. **The teacher displays a pleasant disposition and relates well with all stakeholders of the school community: principal, staff, students and parents.**

   1 2 3 4 5

2. **The teacher can be trusted with confidential information.**

   1 2 3 4 5

3. **The teacher is involved in school/community activities that have enhanced student learning.**

   1 2 3 4 5

4. **The teacher works well with diverse groups of students and differentiates lessons to meet their needs.**

   1 2 3 4 5

5. **The teacher has effective problem solving skills.**

1 2 3 4 5

6. **The teacher responds to constructive feedback from the principal, colleagues and parents.**

1 2 3 4 5

7. **The teacher effectively communicates with the parents of his/her students.**

1 2 3 4 5

8. **The teacher responds appropriately when a parent brings a concern or complaint to his/her attention.**

1 2 3 4 5

9. **The teacher follows district policies and procedures.**

1 2 3 4 5

10. **The teacher is active in curriculum development or school improvement activities.**

1 2 3 4 5

Appendix D

Survey Item Correlations with ICIS Subscale Means

Correlations for Survey A Items and ICIS Means

	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	WWO mean	KC mean	KT mean	KS mean	TOTAL mean
A1	1	.572**	.755**	.186	.649**	.186	.579**	.566**	.552**	.668**	.088	.198	.109	.255*	.209
A2		1	.746**	.166	.634**	.225	.670**	.738**	.637**	.783**	.255*	.255*	.312*	.265*	.381**
A3			1	.215	.653**	.385**	.742**	.783**	.491**	.681**	.223	.286*	.261*	.172	.333**
A4				1	.197	.095	.295*	.164	.220	.129	-.099	.041	-.006	-.137	-.073
A5					1	.141	.567**	.613**	.653**	.692**	.069	.235	.110	.180	.185
A6						1	.366**	.335**	-.020	.100	.324*	.139	.065	.124	.209
A7							1	.868**	.221	.495**	.281*	.178	.238	.223	.315*
A8								1	.427**	.655**	.319*	.290*	.273*	.219	.380**
A9									1	.842**	.017	.244	.111	.126	.153
A10										1	.186	.323*	.283*	.244	.355**
WWOmean											1	.370**	.486**	.402**	.775**
KCmean												1	.309*	.272*	.625**
KTmean													1	.321*	.820**
KSmean														1	.615**
TOTALmean															1

Correlations for Survey B Items and ICIS Means

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	WWO mean	KC mean	KT mean	KS mean	TOTAL mean
B1	1	.800**	.852**	.559**	.803**	.164	.756**	.737**	.815**	.794**	.176	.053	.138	.094	.162
B2		1	.709**	.420**	.639**	.229	.775**	.754**	.645**	.691**	.104	.020	.080	.021	.083
B3			1	.482**	.668**	.233	.599**	.647**	.855**	.821**	.137	.146	.088	-.025	.124
B4				1	.456**	.355**	.418**	.225	.412**	.460**	.064	-.058	-.002	-.068	-.007
B5					1	.233	.613**	.688**	.678**	.648**	.065	-.060	-.019	-.133	-.048
B6						1	.379**	.062	.082	.165	-.062	-.260*	-.060	-.293*	-.186
B7							1	.651**	.523**	.574**	.122	-.052	.063	-.024	.062
B8								1	.718**	.745**	.193	.122	.092	-.043	.117
B9									1	.902**	.143	.117	.196	.019	.166
B10										1	.260*	.088	.144	.009	.171
WWOmean											1	.370**	.486**	.402**	.775**
KCmean												1	.309*	.272*	.625**
KTmean													1	.321*	.820**
KSmean														1	.615**
TOTALmean															1

Correlations for Principal Survey Items and ICIS Means

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	WWO mean	KC mean	KT mean	KS mean	TOTAL mean
P1	1	.497**	.326*	.051	.239	.454**	.359**	.550**	.520**	.344**	-.118	-.044	-.083	-.062	-.102
P2		1	.376**	.248	.421**	.674**	.501**	.552**	.668**	.525**	-.018	.018	.027	-.059	.001
P3			1	.477**	.458**	.471**	.553**	.313*	.428**	.581**	.060	.089	.118	.211	.145
P4				1	.526**	.425**	.529**	.305*	.335**	.473**	.127	-.104	.004	.163	.047
P5					1	.686**	.669**	.479**	.435**	.583**	.120	.024	.008	.132	.092
P6						1	.612**	.600**	.781**	.605**	-.026	.042	-.041	.032	-.003
P7							1	.664**	.639**	.453**	.204	.239	.046	.175	.185
P8								1	.769**	.367**	-.044	-.051	-.155	-.069	-.135
P9									1	.472**	-.083	-.026	-.103	.096	-.075
P10										1	.111	.165	.114	.137	.193
WWOmean											1	.370**	.486**	.402**	.775**
KCmean												1	.309*	.272*	.625**
KTmean													1	.321*	.820**
KSmean														1	.615**
TOTALmean															1

Appendix E

Revised Inter-Item Correlations for Teacher Surveys A and B and Principal Survey

	A1	A2	A3	A5	A7	A8	A9	A10	B11	B12	B13	B15	B17	B18	B19	B20	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
A1	1.00	0.57**	0.76**	0.65**	0.58**	0.57**	0.55**	0.67**	-0.41**	-0.30*	-0.33**	-0.32**	-0.37**	-0.30*	-0.27*	-0.33**	0.37**	0.15	0.14	-0.02	0.15	0.21	0.26*	0.36**	0.27*	0.15
A2		1.00	0.75**	0.63**	0.67**	0.74**	0.64**	0.78**	-0.25	-0.28*	-0.25*	-0.23	-0.25*	-0.24	-0.16	-0.20	0.29*	0.22	0.35**	0.31**	0.39**	0.30*	0.38**	0.38**	0.29*	0.45**
A3			1.00	0.65**	0.74**	0.78**	0.49**	0.68**	-0.30*	-0.29*	-0.23	-0.23	-0.35**	-0.18	-0.16	-0.20	0.29*	0.18	0.27*	0.13	0.22	0.18	0.35**	0.32**	0.20	0.28*
A5				1.00	0.57**	0.61**	0.65**	0.69**	-0.37**	-0.27*	-0.29*	-0.32**	-0.29*	-0.27*	-0.27*	-0.26*	0.30*	0.15	0.04	0.10	0.13	0.18	0.21	0.33**	0.24	0.22
A7					1.00	0.87**	0.22	0.50**	-0.12	-0.16	-0.12	-0.06	-0.21	-0.03	-0.03	-0.06	0.13	0.12	0.27*	0.20	0.22	0.15	0.25	0.20	0.16	0.23
A8						1.00	0.43**	0.65**	-0.23	-0.27*	-0.24	-0.18	-0.30*	-0.21	-0.19	-0.18	0.26*	0.26*	0.31*	0.19	0.26*	0.22	0.35**	0.31*	0.26*	0.28*
A9							1.00	0.84**	-0.38**	-0.33**	-0.32**	-0.36**	-0.29*	-0.36**	-0.30*	-0.34**	0.43**	0.20	0.12	0.15	0.30*	0.30*	.30*	0.40**	0.33**	0.25
A10								1.00	-0.37**	-0.36**	-0.32**	-0.30*	-0.34**	-0.35**	-0.31**	-0.33**	0.39**	0.17	0.21	0.20	0.33**	0.27*	0.37**	0.41**	0.32**	0.36**
B11									1.00	0.80**	0.85*	0.80**	0.76**	0.74**	0.82**	0.79**	-0.77**	-0.48**	-0.20	0.06	-0.27*	-0.42**	-0.27*	-0.42**	-0.43*	-0.25*
B12										1.00	0.71**	0.64**	0.77**	0.75**	0.65**	0.69**	-0.64**	-0.58**	-0.24	-0.12	-0.44**	-0.51**	-0.40**	-0.52**	-0.52**	-0.34**
B13											1.00	0.67**	0.60**	0.65**	0.86**	0.82**	-0.58**	-0.35**	-0.18	-0.02	-0.23	-0.24	-0.18	-0.35**	-0.27*	-0.17
B15												1.00	0.61**	0.69**	0.68**	0.65**	-0.66**	-0.48**	-0.23	-0.09	-0.30*	-0.51**	-0.29*	-0.38**	-0.46**	-0.37**
B17													1.00	0.65**	0.52**	0.57**	-0.66**	-0.70**	-0.28*	-0.10	-0.26*	-0.49**	-0.48**	-0.53**	-0.62**	-0.28*
B18														1.00	0.72**	0.75**	-0.75**	-0.52**	-0.17	0.04	-0.19	-0.42**	-0.22	-0.46**	-0.51**	-0.30*
B19															1.00	0.90**	-0.59**	-0.28*	-0.04	0.06	-0.12	-0.17	-0.07	-0.25	-0.23	-0.17
B20																1.00	-0.59**	-0.29*	-0.05	0.12	-0.13	-0.15	-0.02	-0.26*	-0.22	-0.11
P1																	1.00	0.50**	0.33**	0.05	0.24	0.45**	0.36**	0.55**	0.52**	0.34**
P2																		1.00	0.38**	0.25	0.42**	0.67**	0.50**	0.55**	0.67**	0.53**
P3																			1.00	0.48**	0.46**	0.47**	0.55**	0.31*	0.43**	0.58**
P4																				1.00	0.53**	0.42**	0.53**	0.31*	0.33**	0.47**
P5																					1.00	0.69**	0.67**	0.48**	0.43**	0.58**
P6																						1.00	0.61**	0.60**	0.78**	0.61**
P7																							1.00	0.66**	0.64**	0.45**
P8																								1.00	0.77**	0.37**
P9																									1.00	0.47**
P10																										1.00